PB-241 276

PROCEEDINGS OF CONFERENCE ON PUBLIC PARTICIPATION IN WATER RESOURCES PLANNING AND MANAGEMENT, JUNE 19-20, 1974

NORTH CAROLINA WATER RESOURCES RESEARCH INSTITUTE

PREPARED FOR
OFFICE OF WATER RESEARCH AND TECHNOLOGY

JUNE 1974

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SELECTED WATER RESOURCES ABSTRACTS

INPUT TRANSACTION FORM

1. Report No. 2.

PB 241 276

W 75-06854

5. Report Date

8. Performing Organization Report No.

Proceedings - Conference on Public Participation in Water Resources Planning and Management,

~~Edited by James M. Stewart~~

North Carolina State University, Raleigh,

Water Resources Research Institute ~~of The University of North Carolina, Raleigh~~

OWRT ~~[illegible]~~ A-999-NC(41)

N/A

Type of Report and Period Covered

12. Sponsoring Organization

No UNC-WRRI-74-95

A ~~[illegible]~~ Report ~~[illegible]~~, June, 1974, 194 ~~pp~~ p. Edited by James M. Stewart. Conference sponsored by Water Resources Research Institutes of (Alabama, Florida, Georgia, Mississippi, North Carolina, South Carolina, The Tennessee and Virginia) June 19-20, 1974

~~Proceedings of a~~ conference ~~which~~ (1) reviewed the state of the art and (2) research needs in public participation in water resource planning and management. ~~Includes~~ papers and discussions, on "Identification of Publics in Water Resource Planning," "Information Response and Interaction - Dialogue Aspects of Public Participation," "Accountability of Public Water Resource Agencies: Legal Institutions for Public Interaction," "Education of Planners and Managers for Effective Public Participation," "Education of Publics for Participation in Water Resource Policy and Decision-Making," and ~~also on~~ "Analysis of Public Participation Problem and Research Needs." (McJunkin - North Carolina State)

(see W75-06855 thru W75-06860)

[illegible]

*Social participation, *Planning, *Management, ~~*"Public participation, *"planning, public information, public education, research needs~~ *Education, Review, *Information exchange, Legal aspects, Social aspects, Institutions, Decision making, Research priorities, Public rights

~~South Atlantic-Gulf Region~~

*Public participation

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~~[illegible]~~ 06B, 06E

19. Security Class (Report) 20. Security Class (Page)	21. No. of Pages 175 22. Price 6.25/2.25	**Send To:** WATER RESOURCES SCIENTIFIC INFORMATION CENTER U S DEPARTMENT OF THE INTERIOR WASHINGTON D C 20240

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UNC-WRRI-74-95

PROCEEDINGS
OF
CONFERENCE
ON
PUBLIC PARTICIPATION
IN
WATER RESOURCES PLANNING AND MANAGEMENT

Edited by

Dr. James M. Stewart
N. C. Water Resources Research Institute

Sponsored by

Water Resources Research Institutes of Alabama, Florida,
Georgia, Mississippi, North Carolina, South Carolina,
Tennessee, and Virginia

The cost of publishing this report was supported in part by funds provided by the United States Department of the Interior, Office of Water Resources Research, as authorized under the Water Resources Research Act of 1964.

June 19-20, 1974

INTRODUCTION

Presentations at this conference were made possible with the support of the Office of Water Resources Research, U. S. Department of the Interior, in a South Atlantic-Gulf Region water resources project entitled, "Public Participation in Water Resources Planning and Management."

Special thanks should go to all the sponsoring institutes for their close cooperation in the development of the program and assistance in identifying conference participants.

The first day's program consisted of state-of-the-art papers on important components of public participation followed by an extensive discussion period. Each of the speakers will publish a completion report on his part of the regional research effort through his own state institute.

The second day of the conference was devoted to a reexamination of the research needs in public participation. The results of that session are included in these proceedings.

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OPENING COMMENTS

Professor David H. Howells, Director
Water Resources Research Institute
of The University of North Carolina

Recent legislation, regulations, and court decisions have changed the environment of water resource planning and management decision-making to provide for public exposure and input. This has been a traumatic experience for some public agencies and private industry where "public participation" has been traditionally viewed in the context of public information and public relations. The active involvement, questioning, and input of interested publics is a concept with which most agencies and corporate units are yet ill-equipped to cope. Administrators are uneasy with interested publics beyond those who have supported their programs out of self-interest. The dynamics of vigorous review and criticism--the need to seriously pursue alternatives--to examine and evaluate adverse as well as beneficial effects--to publicly defend positions--have created a crisis of sorts that can only be resolved with a better understanding of the processes involved--their possibilities and limits. While there has been a rapid expansion of the literature in this field since enactment of the National Environmental Policy Act, there has been no major upgrading of skills and procedures for dealing with the problem. We are still in the stage of groping, experimentation, of trial and error, and sometimes of window dressing and evasive tactics. The state-of-the-art has been vague to most of us and its reliability from the standpoint of practice uncertain.

It was in the above context that the speakers on today's program and I met together about a year ago to attempt an analysis of the public participation problem in the South Atlantic-Gulf Region and the identification of research needs. From this experience we concluded that our first step should be an intensive state-of-the-art review of alternative means or courses of action to provide a sharpened perception of what is really known about public participation. With that in hand, we felt that we would be in an improved position for a re-analysis leading to a firm research plan.

The program, today, is devoted to the state-of-the-art of public participation in water resource planning and management. The subject headings represent the principal groupings of alternative courses of action to attain the goals and objectives of public participation.

Tomorrow, the speakers, additional interested faculty, public agency personnel, and others will return for the re-analysis of the problem and research needs. The morning session will be open to those of you who wish to join us in that more limited workshop environment. After lunch, the speakers and other interested university faculty will get together to map out the specifics of future research. Copies of tomorrow's agenda and background material have been distributed so that those of you who will be with us tomorrow will have the opportunity to become better prepared to participate.

The panel discussion following the last speaker provides an opportunity for input which we hope you won't overlook. Your experience can provide meaningful insights which we hope you will share with us at that time. There will also be opportunity following each speaker for questions and comment directed toward the subject matter being presented. We hope that you will take advantage of this.

This conference is sponsored by the Water Resources Research Centers and Institutes of the South Atlantic-Gulf Region with the direct participation of Virginia Polytechnic Institute, Clemson University, Georgia Institute of Technology, Mississippi State University, and North Carolina State University.

IDENTIFICATION OF PUBLICS IN WATER RESOURCES PLANNING

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Introduction

Direct participation of the public has come to be a key part of water resources planning in recent years. It was incorporated originally to increase public understanding of projects and to speed up the implementation process. Public demands for such involvement had become so strong that projects and programs were either being slowed down, halted, or subjected to intense adverse publicity.

Beginning in the late 1960's, a series of federal laws required public participation in the planning of federal water resource projects and programs, including projects that received federal funding or required federal licensing. The three most important federal laws were the National Environmental Policy Act of 1969, the 1970 Rivers and Harbors Act, and the 1972 Amendments to the Water Pollution Control Act.

As public participation in planning of water projects became more common, the objectives shifted somewhat. In addition to the early objective of speeding up and easing the implementation process, some planners came to feel the plans were actually better because of public participation. Conflicts among different groups were brought into the open and sometimes resolved during the planning process, rather than being left to a political decision or a difficult staff decision made by the planning agency. More and better information was used and impacts were better assessed.

Still later, it became evident that public participation enhanced the prospects of potential beneficiaries actually receiving the benefits intended for them by the planners. With sufficient lead time, local residents could get a higher percentage of construction jobs because they were prepared to take them. The often disruptive effects of construction could be planned for and mitigated. When other, related programs were necessary to make a water project work at something approaching its optimum, the public could play a role in insuring that those other programs did, in fact, take place in a timely manner.

The conceptual base for public participation was also expanded and refined. In the early public participation efforts, there was a strong emphasis on public information and education. The public was generally thought of as being a unitary *mass*. Engineers stressed *measurement* of public desires so that the planner could meet those desires. There was heavy stress on *input* from the public.

From direct field experience, most planners learned that the public was not a unitary mass. At about the same time, academics were borrowing the concept of audience segments from communication researchers and market segments from market researchers. These two concepts are almost identical and mean there are identifiable groups, not necessarily socially connected groups, that have similar behavior patterns relative to, in the first case, a communication and, in the second case, a marketable product. With a few exceptions, both audience and market segments were defined in terms of demographic and geographic characteristics.

The field experience of planners and the conceptual contributions of academics happily coincide. The two groups now talk of segments of the public or simply, publics. Having accepted the concept, the planner is faced with the task of locating those publics. The researcher, in turn, is asked to provide methods of locating, identifying, and/or describing publics. A later step, building on the first one, is to find ways of communicating with each public. Here, we move closer to the task of the communication researcher. If a communicator wishes to get a particular message across to some audience segment, he must choose the right channel or channels of communication and he must code the message in appropriate symbols. If a *person* is to do the communicating, the right person must be selected.

Here are two probably extreme examples. One would likely not choose a Cambridge don to lecture on stock cars over a classical music radio station if one wishes to promote a stock car race in Georgia. Likewise, one would not have Lawrence Welk read a major address by the president of the New York Stock Exchange on the state of the stock market, intended to reach stock brokers, over a major television channel at 2:00 p.m. on a weekday. In both cases, the communicator, the channel, and the symbol coding, are likely to be very inappropriate.

Two more concepts were incorporated into the theory of public participation, largely by academics, in the late 1960's. The first was that planning was a social process. It followed some definable stages, was subject to the rules of group interaction behavior, and was dependent on the mix of participants. The second was the concept of two-way communication.

The importance of the first concept, planning as a social process, is that there may need to be a somewhat different set of participants in each stage. Also, the mode of participant interaction is likely to influence the outcome of the process. Finally, if the mix of participants does indeed make a difference, we need to be concerned about getting an optimal mix of participants. Thus, there are additional reasons for identifying publics.

The concept of two-way communication essentially means that the two parties to a communication should both communicate with each other. Two-way communication is ordinarily more effective in accurately conveying a message and is ordinarily more persuasive than is one-way communication. In order to have two-way communication, it is almost always necessary to identify the second party so that the communication may be carried out. In one-way communication, it is possible to disseminate a message on some channel without regard to the receivers.

Identifying Publics--Theory

With this general background on public participation in planning, we turn next to a consideration of the theoretical aspects of identifying publics. We will first examine the purposes of identifying publics. Second, we will discuss what it means to identify publics. Third, we will discuss some of the fundamental concepts that guide the identification process.

Purpose

The principal reason for identifying publics is so that they may, if they wish, be involved in the planning process. It is evident that not all of the publics want to be involved in a given water resources planning venture, even if they are affected by the plans. Their reasons are manifold and need not be catalogued here. Whether they do or do not wish to be involved in planning, however, there should be a thorough effort to identify each relevant segment of the public. As the schemes for categorization will vary considerably (to be discussed later), it is not impossible to imagine a public segment identified as the not interested, not involved, and/or not affected segment. If such a segment were identified, it would, in many cases, be the largest segment (particularly if we do not include "unaffected" as part of the description of this segment).

A second reason for identifying publics builds on this latter point. If there are segments of the public which are affected but do not choose, for whatever reason, to be involved in planning, this should be known and accounted for in the planning process. For example, if these segments did not have a spokesperson or advocate, the planner must more explicitly account for those interests than if those segments had been represented by an advocate in the planning process.

Components of Identification

In identifying a public segment, we are looking for more than a segment name. Roger Tory Peterson's Field Guide to the Birds provides a good analogy. This book is devoted to bird identification in the field. (Moreover, it emphasizes identification at a distance rather than in a laboratory.) A typical Peterson description includes a common name, a scientific name, a word description, one or more pictures and drawings, a comparison with other similar species, a description of its voice, and its range. Moreover, he discusses the general characteristics of groups of birds so that they may be studied in a larger context than simply one species.

The identification process appropriate to birds is by no means appropriate for public segments. Nevertheless, we have a valuable process guide in the Peterson model. Our identification needs to be brief enough to be manageable and complete enough to be useful.

Location. One part of public segment identification in water resource planning and management is locating the segment. Some segments have a definite geographic location. The segment may be a town, or those living in a flood plain, those living below a dam, those living on either side of a river, those living around a lake, or those outside the project boundaries, etc.

Other public segments do not have a specific geographic location. They derive their significance to planning from some characteristic other than locale. Thus, for those segments without locale, a part of the identification is to say they do not have locale.

Interests. A segment of the public identified as having some relevance to water resource planning would ordinarily have some particular interest in the planning process or the outcome. This interest might be economic benefit or loss, environmental protection, concern about governmental process, historical or archeological sites, attachment to property, etc.

To some extent, the interest of an identified segment would be known to the planner and/or the society. However, for completeness and accuracy, an explicit statement of interest should be secured from the segment, if possible. This statement need not be complete at the early stage of identification, but should be complete and accurate before concluding the identification.

This step in identification has ultimate importance to the segment itself because the segment has been assisted in clarifying its role. It is important to the planner because he knows why a segment is being involved and what some of the issues are. It is important to the other participants because they can know the relationship of each segment to the planning process and because segments with common interests can work together. Also, conflicting interests may be more easily determined at an early stage when there is more opportunity to work out solutions to conflicts.

Social Characteristics. To effectively involve some segment of the public in the planning process, it is highly desirable to know something of the social characteristics of the segment. There is a strong tendency to say necessary rather than highly desirable, but unless there are major cultural differences among segments and planners, generalized approaches to involvement may be used that do not require a high degree of specific knowledge.

Since a public segment may or may not be a social group, one of the first social characteristics to be determined is whether a social group exists. An important public segment is usually comprised of unorganized individuals, perhaps not even in the same locale. Where the segment does comprise a social group, we wish to know the group goals (which, in turn, determine the group boundaries), the reason for existence of the group. We also wish to know something about its size, its structure, its mode of organization and operation, and its communication behavior patterns. The group's history is also of interest.

Demographic Characteristics. Such things as age, sex, race, education, income, occupation, etc. are commonly referred to as demographic characteristics. While the amount of information they convey about society is obviously limited, much of water resources planning is oriented toward use of demographic data as primary components of project or program development. Thus, it is desirable to include demographic characteristics of public segments as part of the package of description.

Demographic description is easiest when a public segment can be associated with some geographic territory because the best sources of demographic data are organized in that manner. However, when a segment can be identified, means can be devised to ascertain the demographic characteristics of a segment. Survey research is the usual technique unless, for some reason, such data is already available for that segment.

As in the case of audience and market segments, some public segments are defined almost entirely in terms of demographic characteristics. The elderly, the young, low, high, or middle income, racial/ethnic groups, occupation groups, etc. are all examples of public segments defined in terms of demographic characteristics. When it is possible to define a public segment in terms of demographic characteristics, it is ordinarily the case that demographic characteristics are proxies or surrogates for other cultural traits. Thus, low income people in a small city may mostly reside in a particular territory, belong to certain voluntary associations such as churches and community groups, and share common problems, especially the latter. Communication behavior may be quite similar among most members of a segment defined in demographic terms. (Indeed, marketers of consumer products stake much of their advertising budget on the belief that this is the case.)

Fundamental Concepts

In sifting out the theoretical concepts useful in formulating approaches to identifying publics, it seems most valuable to work with simple concepts. There is little doubt the array presented here is incomplete. Moreover, no attempt has been made to order these concepts from most to least important.

We start with the concept that society is, with some exceptions, organized into groups. Thus, most of our work in identifying publics can proceed by considering identifiable groups. For those individuals who are not part of any group, special approaches are warranted to some extent, though it is likely the interests of the unorganized individuals are, to some extent, consonant with those of organized individuals.

Most individuals are members of more than one group. This allows a person to more fully express different aspects of his own personality and to work on different goals simultaneously. On the one hand, this would seem to complicate the task of identifying publics in a comprehensive manner. On the other hand, there is the distinct advantage that if some group is not identified, the individuals in the group may have access to the planning process through another, identified group.

A group may be thought of as being bounded by group goals. Persons who do not share those goals either do not enter the group, leave the group, or have weak ties to the group. Thus, it is possible to have direct contact with only a small percentage of the population to effectively reach individual members of the groups. Some consider the leader of the group to generally exemplify the goals of the group. This is, of course, not always true, but is true often enough to make it a working rule-of-thumb.

There should be some provisions in the planning process to ascertain whether the leader does or does not adequately represent the group. The largest deviations are almost certainly between the goals of elected public officials and the electorate. The reasons are fairly obvious. An elected official often wins an election by a bare majority, from less than the full electorate (in some local elections, turnout may be in the order of 30 percent or less). Moreover, the approaches to winning local or other elections deviate rather far from selecting someone who does exemplify the goals of the public. Finally, the duties and responsibilities of the elected official are such as to give him little contact with the public on many issues, especially those of low salience. Many water projects are of this type, important but not salient.

Baur (1973) has stated that every human community, every social group can be thought of as having the five basic aspects of persons, activity, interaction, adaptation, and cohesion. He relates them as follows: "A group consists of people (persons) doing things (activity) with one another (interaction) to accomplish something (adaptation) that also affects their relation to one another (cohesion)." His outline of social phenomena, organized according to these five aspects, is appended. Baur's analysis and explanation of the many concepts listed and organized in the Appendix are not repeated here. The reader is referred to his full report for further details.

In dealing with the identification of publics, it is useful to add some discussion of rules and roles. Each group operates by some set of rules, formal and informal. Since public participation in planning entails interaction between the planners (presumed not to be part of the group) and the group, it would be desirable for the respective parties to have some knowledge of the rules under which each is operating.

The planner can routinely set forth some of the rules under which he operates. He can describe the planning process. He can then promulgate it to each of the groups and individuals to be involved in the planning process.

The more formidable task would be obtaining and recording the rules under which each of the publics operates. From a theoretical standpoint, it is sufficient to say that the interaction characteristics of each public should be known. This may be approximated by knowing the general interaction characteristics, the rules, under which most groups within a given society function. If the rules are found not to apply in a given situation, the necessary information about that public may be sought.

A simple example of how groups adopt a general set of rules is the widespread use of Robert's Rules of Order. It is also customary for voluntary associations to accomplish much of their work through the use of committees and the elected officers of the group. Thus, if the planner interacts with the committees and elected officers, he usually has adequately contacted that group. There are, of course, exceptions. When relationships with a group seem to be unsatisfactory, it may be because such interaction is not sufficient. Others in the group, including the entire group, may need to be directly contacted.

In addition to the rules of conduct for a public, the roles of groups need to be considered. For example, some groups will not intervene in political matters. Others choose to lobby. Some are entirely educational groups, others promotional. The importance of this concept is that the planner may need to relate to the group in accordance with the role the group chooses rather than the role the planner would like to see the group adopt.

The League of Women Voters, for example, is a study and issue group. It has built a reputation on thoroughness and accuracy. Its positions (concensus) are taken with great deliberation, according to a prescribed procedure. This process is slow. Few issues can be expected to reach the stage of consensus in less than a year. If the planner wants to have an official position from a group like the League, he cannot expect it quickly (unless the position has previously been taken) and may not get it at all. Conversely, a group that relies heavily on Executive Committee action may be able to reach a group position in a matter of hours, days, or weeks.

Identifying Publics--Practice

The practice of identifying publics builds on the theoretical base described in the previous section. It is modified somewhat by limitations of staff, budget, information, and personality of characteristics of participants on all sides. For discussion purposes, the approaches may be grouped into self-identification (with and without staff intervention), staff identification, and third-party identification. In general, one would seek to use all three groups in a given public participation program. The mix appropriate to a program is a function of all the above factors.

Self-Identification

There has always been some opportunity for self-identification in water resources planning. Laws at all levels of government have often contained provisions allowing for petition, appeal, public hearing, suit, protest, and publicity. While these vary considerably and some laws do not allow for even these means of citizen access, there is at least some means by which a citizen or group may inject himself or his group into the planning process. Each of these methods is still a legitimate avenue that need not and should not be abridged.

Citizens also identify themselves by corresponding with the planning agency or a related agency and by appearing at public meetings dealing with water resources planning. The usefulness of such means can be enhanced with little effort and cost. At public meetings, identification cards with space for supplying information useful in categorizing and correctly corresponding with the person or group can be used. In newsletters and general circulation newspapers, advertisements may be taken with the same kind of information requested. A toll-free telephone number may be established for those who would prefer to communicate by telephone. Radio and television announcements may be used to publicize the willingness and desire on the part of the planner to have people identify themselves.

An important ingredient in facilitating self-identification approaches is the use of multiple channels of communication to the public so that maximum opportunity for self-identification is afforded and that the publics have a number of ways to self-identify themselves with little cost and effort.

Third-Party Identification

Third-party identification is much like self-identification except that it is done by a third party. The Seattle District of the U. S. Army Corps of Engineers uses Citizen Committees for this purpose. One purpose of citizen committees is to identify those groups and individuals who should be involved in planning or who are affected by proposed plan alternatives. This principle can, of course, be extended further. Any person who is aware of the planning effort and knows of some other individual or group that should be involved may identify that person or group to the planner.

The principal factor to consider in using third-party identification is that the structure must be apparent. Citizen committees, for example, are rarely used for that purpose. If the planner asks the citizen committee to perform the function, there is no difficulty in getting the committee to do it. Conversely, if they are not asked, it is unlikely it will get done.

Staff Identification

The planner plays a definite role in both the self-identification and third-party identification approaches. His role is primarily that of a facilitator. Staff time requirements and budget requirements are generally low, though in the initial stages of establishing a mailing list and processing requests to be involved in the planning process, there may be a substantial amount of time and money involved. The early stages of involvement frequently involve requests for information about what is happening. Mailing reports and other material to individuals, answering questions on the telephone, accepting speaking requests, etc. are all time consuming. Money and other resources should be budgeted for the task.

In staff identification, nearly all the work involved in identifying publics is done by planning staff. Thus, though there may be contact with other persons and groups to perform the function, the other persons and groups bear little of the responsibility. The principal techniques and approaches to staff identification are described below, with some appraisal of their effectiveness and appropriateness in water resources planning.

Analysis of Associations. Analysis of associations is a process of consulting available lists of organized groups and picking out those who appear to have possible interest in being involved. Having identified a tentative list of interested groups, the groups are contacted and queried about their interest.

Lists of associations are usually available in any community, though the lists are almost always incomplete. The Yellow Pages of the telephone directory, the Chamber of Commerce, newspaper lists, city and county directories are all ready sources. Going beyond these free lists, available to anyone, there are lists available on a national and state basis, sorted by ZIP code, and categorized by type. The cost is quite low, about $25 per thousand addresses, with a 10 percent surcharge for state selections. Small lists are somewhat more expensive. Sociology and political science departments at local colleges and universities often maintain lists of organizations in a particular area.

Analysis of associations is always an appropriate method of beginning to identify publics. It is fast, inexpensive, and prompts thought about possible interested and affected groups. Moreover, it provides a guide to the general social organization of the area. It is also, however, approximate and incomplete.

Geographic Analysis. Geographic analysis involves study of maps and photographs to determine areas that should be singled out for special attention in the planning process. As mentioned earlier, flood plain dwellers, those downstream from a dam or sewage treatment plant, those displaced by a reservoir, etc. are obvious groups to be identified from map studies.

Other groups that may be identified from geographic analysis are those who live in a certain relationship to the proposed projects or programs. Ordinarily, those closest to a project have the most interest, though this is not always the case. Geographic territories such as market and economic areas have been established for the entire United States, especially by demographers such as Bogue. Social area analysis has been done in many urban areas and to some extent for states and multi-state regions.

Demographic Analysis. Demographic analysis may be used in two ways, alone and in combination with geographic analysis. When it is used alone, a public is defined as that group of persons having a given set of demographic characteristics. When used in combination with geographic analysis, the demographic analysis is tied in with territories. Thus, in the latter case, one might look for those territories that had unusually high percentages of elderly or non-white or middle income or any other characteristics of interest.

When demographic analysis is used alone, its value is primarily as a tool to be used in one-way, mass-media communication. Thus, certain channels of communication might be selected to reach a particular audience.

The more useful application of demographic analysis is in combination with geographic analysis. This coincides closely with the usual approaches to water resource analysis in which subareas are defined and the project or program are analyzed in terms of the effects on groups of persons within those areas with given demographic characteristics.

The U. S. Census is the primary source of information on demographic traits. It may be supplemented with special surveys or field work.

Demographic analysis can ordinarily be done entirely as an office study without extensive interaction with the public. This has the advantage of speed and low cost. It has the disadvantage that no public contacts are made until the study is completed.

Historical Analysis. Most water resources projects and programs have a history. The history is documented by reports, correspondence files, and newspaper accounts. Reference to such data can provide a means of discerning what the various publics have been in the past, relative to water resources issues.

Historical analysis is made somewhat easier when clipping files are available. Some water resource planning agencies make extensive use of such files, and they are available to the water planner. Newspapers also keep such files. They are not always open to the public, but it is worth trying. When they are open, they are a gold mine of information. Libraries likewise keep such files on particular projects. The Atlanta Public Library, for example, has extensive files on the Chattahoochee River, the principal river in the Atlanta area.

Field Interviews. The field interview has been a much-discussed method of identifying publics. This is especially true when snowball methods are being used. In the snowball methods (really, a special case of third-party identification) the planner begins his work by interviewing a group of prominent people and asking them to identify persons likely to be interested in water resources planning. Those persons are subsequently interviewed and asked the same question. The process is repeated until no more new names are received.

The snowball method will identify those persons who have in the past been influential in a particular issue area. It will not identify persons who are not well-known but who have a legitimate interest in involvement. It tends to be an expensive, time-consuming method. The snowball methods have become so closely identified with power structure studies, and there have been so many power structure studies done in U. S. communities that the method has limited value at the present time.

Affected Publics. In the latter stages of planning, i.e., at some time after alternatives have been identified, the planner can identify those groups of people who in some way are likely to be affected by the proposed project or program. This is one of the best ways of rounding out the identification process. Very little of this work can be done at the beginning of a study unless there has been previous work done that allows identification of possible alternatives.

Examples of groups that could be identified in this way include those who would gain or lose economically, those physically in the path of some project element, communities whose pattern of activity would have to be changed in some way, etc.

General Lists. A recent tendency in some water resource studies, especially those conducted by the federal government, is the use of standard categories of publics. In the Atlanta Water Resources Management Study, three levels of publics were used. Level I publics include "all major units of government." Level II publics include special interest organizations. Level III publics include local public interest groups. Peavy (1974) has added a fourth level of publics, consistent with the earlier theoretical base, of "the unreachables"--people who may have a stake in water resources planning and, for whatever reason, do not wish to participate and be informed about the study or the issues.

A Concluding Word

No attempt will be made to summarize the foregoing remarks about identifying publics. The foregoing is already a summary of a lengthy subject. However, a few words about attitude toward identifying publics is in order.

It is fruitless to expect to identify all publics that might be relevant to a water resources planning study. It is probably better to think in terms of attaining a suitable approximation, one that is appropriate to the planning task. Such an approach is not only adequate but relieves some of the apprehension a planner often feels when given the task of identifying publics.

Finally, if the planner sincerely is interested in identifying publics, he is likely to be able to do it, with only a minimum of advice on techniques and strategies. Hopefully, the foregoing constitutes sufficient background.

Appendix

Outline of Social Phenomena

I. Persons
   A. Demographic characteristics
   B. Personality attributes
   C. Collective attributes

II. Activities
   A. Economic (production, distribution, consumption)
   B. Educational (socialization)
   C. Governmental
   D. Religious
   E. Health and welfare

III. Interaction
   A. Interpersonal
   B. Subjective
   C. Group
      1. Small group
      2. Club
      3. Association
      4. Organization
   D. Categorical
   E. Territorial

IV. Adaptation
   A. Technological
   B. Social
   C. Cultural
      1. Norms
      2. Sanctions and inducements
      3. Values
      4. Language
      5. Patterned response to conflict

V. Cohesion
   A. Normative
   B. Structural

1. Associational density
    2. Coordinating associations
    3. Conflict resolving bodies

C. Functional

D. Disorganization
    1. Atomization
    2. Factionalism

INFORMATION RESPONSE AND INTERACTION - DIALOGUE ASPECTS OF PUBLIC PARTICIPATION

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A great deal has been written and even more said about public participation in agency decision making. It has become a subject much like motherhood which, before the advent of the Zero Population Growth Movement, was something everyone was in favor of. The popularity of the subject is such that one tends to forget that it is a relatively recent movement . . . Bernard Berger, Director of the Water Resource Center of the University of Massachusetts, notes that:

> The rise of the "big" government after World War II appeared to have had a stifling effect on public participation in decisions affecting the environment. In retrospect it appears that, for roughly 20 years until the mid-sixties, public interest increased in matters of broad governmental policy while it lessened in the particulars of governmental action . . .
>
> Nevertheless, the thread of more traditional concern with the particulars of governmental action persisted. This was evident in the broad interest in investigative reporting of specific governmental actions, and in the techniques used by government to measure the costs and benefits of its public works projects . . . Increasingly over the last decade, the confidence of citizens in their own judgments has grown with a corresponding reduction of confidence in the reliability of expert judgment.[1]

It has also been noted that the present public participation movement is a reaction not only to big government but to the development of independent agencies staffed by experts which often became a "governing body" uncontrollable by the citizen. The protests of the 1960's are well documented by Reich in his article, "The Law of the Planned Society"[2] and by others who portray this movement as efforts of citizens to have direct input into the decision process where no institutionalized channels exist.

We go through cycles in which change in the existing state of affairs is demanded. New ways replace the old. Reform becomes the name of the game. Public administration as an approach to government arose as an attempt to rectify the "disorganization, haphazardness, amateurism and dishonesty" which characterized the governmental administration of the period which spawned it.[3] These problems were thought to be the result of the fragmentation and parceling out of powers and functions of government. The proposed cure was an emphasis on centralization, hierarchy and discipline--that is, bureaucracy--in order to achieve the desired state of efficiency. Over the years this approach has been reinforced by the idea of accountability to the people through the political structure. Historically, bureaucracy and the rationalization of the relationship between the bureaucracy and the executive, legislative, and interest group structures has been the mold within which public policies have been developed.

An unintended consequence of this system has been a lack of freedom to experiment with alternative decision systems. This, combined with a disenchantment with the "bureaucratic orientation," a perceived gap between promises and delivery of programs, and a perceived lack of governmental responsiveness to important areas of public concern has been a part of the rise in interest in participative administration. Government operations are perceived by many as too large, too remote, too impersonal, too complex to be efficient and too inflexible to face the problems of today's society.

These frustrations have in recent years been focused at the principal point of contact between citizens and government--i.e., public administrative agencies--and have resulted in demands for increased citizen participation in the activities of the governmental agencies. Many of the protests with which we are all familiar would seem to substantiate this view. How general the movement is among the nation's people we don't know, but we do know it has had its effect at all levels of government as well as in many other areas.

What the advocates of the participatory administrative position do not make clear is the answer to four basic questions. Who is to participate? When will they be involved? How will they be involved? In what will they be involved? Despite the basic tenets of public administration previously mentioned, there has long been the acceptance of a legitimate participative role in the administrative process by various interests outside the duly constituted governmental agencies. Labor, business associates, regulated industries or industry groups have long had a say in some agency activities. But traditionally, the role has been representing their interests in agency policies as members of advisory committees, etc. Citizen participation admittedly has been selective.

The 1930's brought out a participation program in the agricultural sector. A system was created by which local farmers, through elected boards, controlled the content of erosion control programs. Acreage and crop quotas were the result of referenda among farmers.

The Workable Program Requirements of urban renewal in the 1954 Housing Act called for the cities "to encourage citizen participation through the establishment of citizens' advisory committees to examine constructively the workable program goals."

Ten years later, the Economic Opportunity Act of 1964 included provisions in its Community Action Program for "maximum feasible participation of the poor" in its anti-poverty efforts.

Revision of policies of both programs came with time and experience. In 1969 the Model Cities program revised its requirements to include consultation with, rather than co-optation of citizens, on the premise that planners and policy makers could not understand problems of low income people.

And recently, as you all know, increased demands for a return to "grass roots democracy" coupled with increased concern for the environment has brought about provision for "public participation" in water resources decision making. These efforts have now been canonized as a part of the rules of the Environmental Protection Agency and guide many activities and efforts throughout the country.

However, in all the noise and confusion, it would appear that the answers to two basic questions which are critical to implementation have not been clearly defined. These are: "Who is the public?" and "What is participation?" Perhaps it is the difficulty of answering these questions that explains why they have not been handled. But an assessment of the areas being treated depends upon the definitions applied. Similarly, it is difficult to know whether "public participation" is adequate if one doesn't know what it is and how it can occur.

So before looking at the techniques about which this paper is supposed to be written, let's look at the critical concepts.

Who is the public? As Warner notes:

> The term public, like the term participation, is frequently left relatively undefined and ambiguous. For program administrators, this lack of specificity can act both as a blessing (providing generous room for interpretation) and a curse (leading to frustration in coming up with practical implementation procedures)" Warner, p. 25.[4]

However, one answer to this question is grounded in orthodox democratic theory. This view assumes that every citizen has or ought to have views about what the country needs. Therefore, the answer to this question becomes "everybody" is the public. That this view permeates the planning field is indicated in the Environmental Protection Agency publication, "Toward a Philosophy of Planning: Attitudes of Federal Water Planners," in which it is noted with some chagrin that "around half" of the planners "glibly" defined the term to mean "everybody," the general taxpayer, or simply all those outside government.[5] Although this viewpoint does not seem dominant nor really strongly held, it does exist. It is interesting to note that this is not the version which is included in the EPA Guidelines.

The second view is that there is a set of interests common to a certain number within the population and that the term public designates this transitory, amorphous, and relatively unstructured association of individuals with certain interests in common. By these criteria any persons interested in a subject become members of the public for that particular subject. While this is useful for research purposes and for political discussions, the term public as defined in this way is not much better for action purposes than that of the previous definition--that is, what are we looking for are the effective publics; i.e., action bodies . . . and this rests upon the development of more formal and institutionalized groupings.

What, then, is the public, or better, what are the effective publics of water resource decision makers? The answer would seem to be all those organized groups having an interest in the subject. Does this mean only those who have, in the past, expressed an active interest or does it include those who suddenly awake to discover that they are interested? . . . It would seem to include both . . . Some of the objections now being raised relate to the refusal by agencies to recognize new publics. However, because all agency decisions are political decisions or at least have political consequences, it is not possible to select just the interested groups. Input from interested individuals not a part of groups must also be accepted. Public agencies, then, would seem to have two types of publics: interested groups and interested individuals. The second critical concept--"participation"--is also generally vague. As it is used, it has various meanings ranging from reaction to idea generation and from advising to actual involvement in the plan development. The Corps of Engineers, for example, defines public participation as a continuous two-way communication process which involves: promoting full public understanding; keeping the public fully informed; and actively soliciting from all concerned citizens opinions, perceptions, needs, etc.

The Environmental Protection Agency while not specifically defining the term appears to consider the availability of informational materials, assistance to the citizen groups, consultation and active notification processes as exemplary of public participation. At the other end of the scale is an example drawn from the Model Cities Program--Boston's South End Urban Renewal Project. In the second part of this effort the Planning Team Director, using a pluralistic model of power, worked with neighborhood groups to produce several discrete plans for various subareas, then coordinated them into a whole through communitywide citizen planning bodies. The major thrust of this effort was that citizens were actively involved in the process of planning throughout the effort.

The major purpose of the above is to show that where you begin determines the techniques which will be used and ultimately what you end up with.

A number of such definitions of "models" of participation have been developed. They appear to vary primarily in the way they answer four basic questions:

1. What does participation mean? That is, what part are citizens expected to play in the planning process?
2. Who will participate? That is, what are the relevant publics?
3. How will they be involved? That is, what are the specific relations between agency planners and citizens?
4. When will they participate? Plans develop over time. At what point or points in the process will publics be involved?

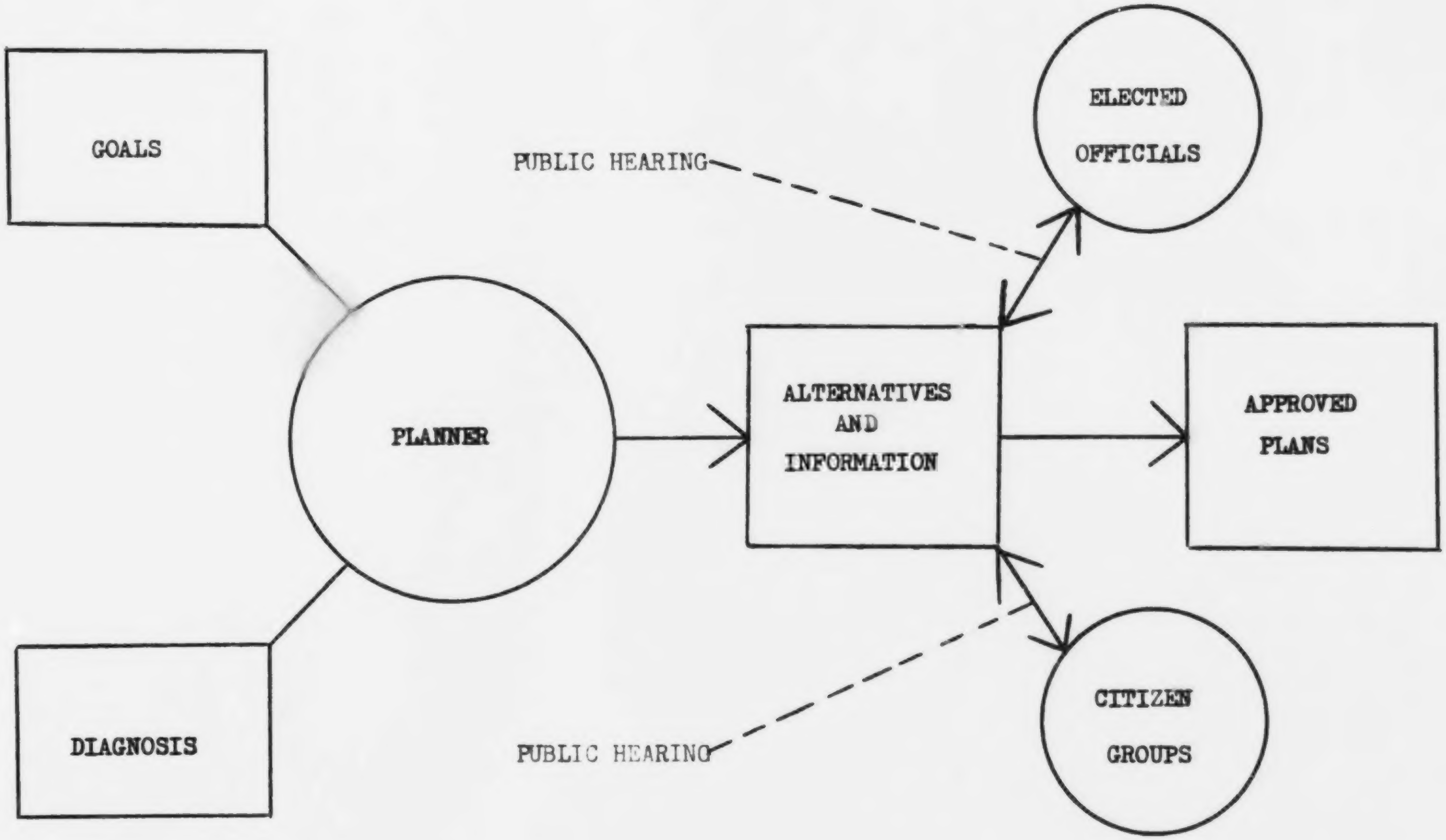
Models of Decision Participation

It is not the purpose of this paper to discuss the problem of recognition of appropriate publics This has been treated by another speaker. Having indicated the problems of definition of public and participation, let me move to the subject about which this paper was prepared: the information-response and interaction-dialogue aspects of participation. These terms reflect different approaches to participatory planning. Information-response normally would mean the planner would generate information and ask for a reaction from the public. In this way the citizens will have been involved in the planning process. The interaction-dialogue approach involves a more intensive involvement of publics in the planning process. The planner attempts to meet with public groups and exchange ideas with them, getting and giving information about situations, problems and plans. In its most extreme form the interaction-dialogue approach would make the agency and the publics equals and co-planners.

It should be noted that although they are conceptually distinguishable, some aspects of each are usually found in the attempts to implement them. They are also distinct in that they may be seen as directed toward different types of publics, involve different modes and timing of participation as well as reflecting different roles of citizens in the planning process.

To elaborate this point, let us look at a series of decision-participation models and discuss the various actors, their roles, and exemplary techniques associated with each. It should be noted that multiple techniques are generally necessary to reflect the intent of many of these models so it is often not possible to attach a single label to them. Those of you who are familiar with A. Bruce Bishop's Public Participation in Water Resources Planning[6] will note that we are using a slightly modified version of the models he presents.

> Model 1, which is essentially an information generating or one-way model, involves a planner or decision maker who considers the goals, diagnoses the problems, formulates alternatives and presents them for reaction from various relevant publics. He considers the reactions and develops a final plan.
>
> (Model 1 here)
>
> This is probably the extreme of the elite conception of planning in which the experts plan for the citizens. It has been one of the most frequently practiced forms of planning.
>
> Among its strengths:
> (1) Efficiency of plan development
> (2) Minimum amount of conflict during development period
>
> However, it also has weaknesses:
> (1) Tends to be authoritarian
> (2) Will not work unless it reflects the needs and goals of the affected publics
> (3) Assumes the planner is the most knowledgeable about the situation


GOALS
DIAGNOSIS
PLANNER
PUBLIC HEARING
PUBLIC HEARING
ALTERNATIVES AND INFORMATION
ELECTED OFFICIALS
CITIZEN GROUPS
APPROVED PLANS

Model No. 1.

Major example: Public Hearings - As a technique, this, too, has advantages and disadvantages. Among its advantages:

1. (1) The cost is relatively low.
2. (2) It is a very simple form of citizen participation.
3. (3) It is an accepted mode in that it has a long tradition reflecting back to the town meeting.

However:

1. (1) It usually involves only a relatively small proportion of the relevant publics and then only superficially.
2. (2) There is generally no decision making in the hearing; it generates awareness and gets reactions only.
3. (3) Time and place generally restrict participation by citizens.

Model 2 (Information with Feedback) is a modification of the previous one in which the planner uses information from relevant publics about the problem at hand. The planner integrates this information in the plan in terms of the goals and problems diagnosis he has made and makes planning decisions. These decisions are then presented in the form of plans to community officials, staff, and other relevant publics for comment. On the basis of the comment received, the planner decides to proceed or modify the plan. The public's role in this case is twofold: to offer information about the problem as conceived by the planner and to react to the solution offered. Decision making remains the prerogative of the planner.

(Model 2 here)

The strengths and weaknesses of this approach tend to be similar to the previous model, although the feedback mechanism involves more publics in more depth. This might make the planner more knowledgeable both about the problem and the acceptable responses to it. It would tend to slow the planning process and would be more expensive than the previous model. In most likelihood, if enough publics have been considered and listened to, the potential for conflict should be reduced.

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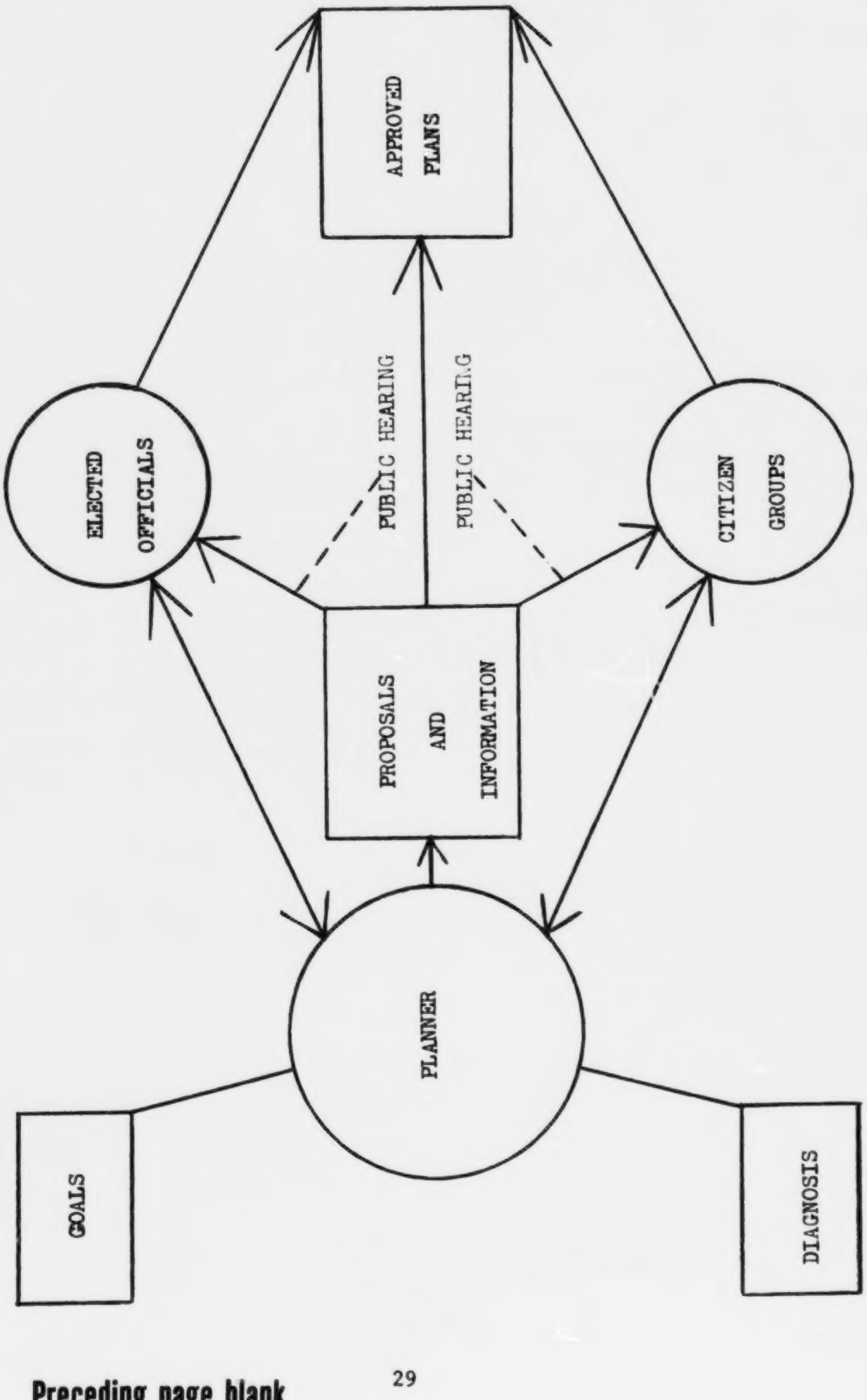

Model No. 2.

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Example: Public Hearings with prior contact.

Advantages:	(1) More publics are involved over a longer period.
	(2) Planning is improved.

Techniques: Citizen's advisory group, public hearings, contact with agencies

In the previous set the planner established goals and diagnosed problems, the publics added information and reacted. In what follows interaction-dialogue seems the most characteristic approach. In Model 3 the focus changes:

> The planner is at the center of an information wheel. He gathers from the relevant publics what they consider the basic problems which need resolution. He distills these inputs and comes up with a plan after constantly testing alternatives with each of the various interests. Publics are involved througnout the planning process by continuous communication flow between each group and the planner. Groups are worked with separately.

(Model 3 here)

Possible Techniques:	Group meetings involving separate publics. Workshops are also a possibility.
Advantages:	Contact with representatives of various publics. Planner is made aware of a broader perspective with regard to problems. Potential for conflict is reduced providing all relevant publics have been considered.
Disadvantages:	Planning is more difficult. The planner's changes to that of coordinator. Process is slowed.

The following model (No. 4 in the series) further modifies the role of the planner in that he acts as a coordinator and catalyst between various publics. It differs from the previous model in that representatives of the various publics are communicating with one another as well as with the planner. The planner synthesizes objectives, coordinates interests and helps to work out conflicts. He encourages

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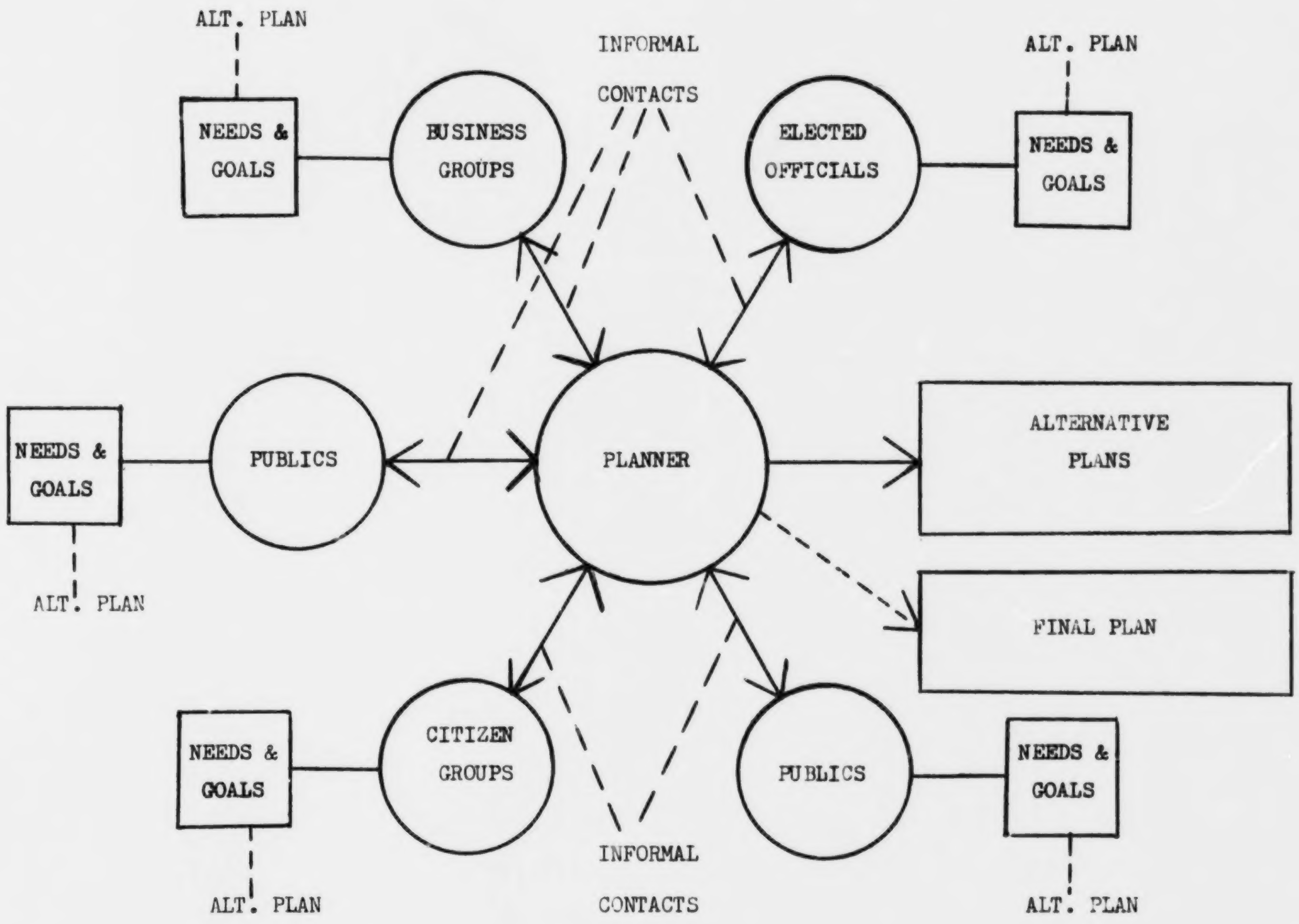

Model No. 3.

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interaction during the process of planning. Out of this process the planner develops a plan which he perceives as representative of the needs and goals of the various interests involved.

(Model 4)

The advantages of this approach are that it involves different publics in both the planning process and in the working out of differences which are part of public planning.

However, it is conflict laden and is a slow process since the conflicting needs and goals of the various groups must be settled before plans can be developed.

An example would be the workshop technique.

One of the major disadvantages of this approach is that it reduces the number of publics with which the planner can work thereby raising the question of the representativeness of the publics.

Model 5 introduces an additional role in the process--the ombudsman or advocate. He acts as a link between the various publics and the planner. His job is to translate the needs and goals of the various publics to the planner. Together, planner and advocate develop alternative plans. The ombudsman gets the reaction of the publics; then the process is repeated until an acceptable plan is developed. The major advantage of this approach is that the planner works with a person who represents the interests of the various publics. It shifts responsibility for dealing with publics to the ombudsman rather than the planner. Many of the disadvantages of the previous models still apply particularly with regard to the speed of decision. The ombudsman might well use interviews and surveys as a part of this job.

Model 6 changes the advocate to a hearing officer who arbitrates any conflicts between planner and publics or publics and publics. He acts as moderator during the debate over the plan and may make the final choice among the alternatives presented by the planner and the publics. The hearing officer is independent of both and chooses alternatives between conflicting demands.

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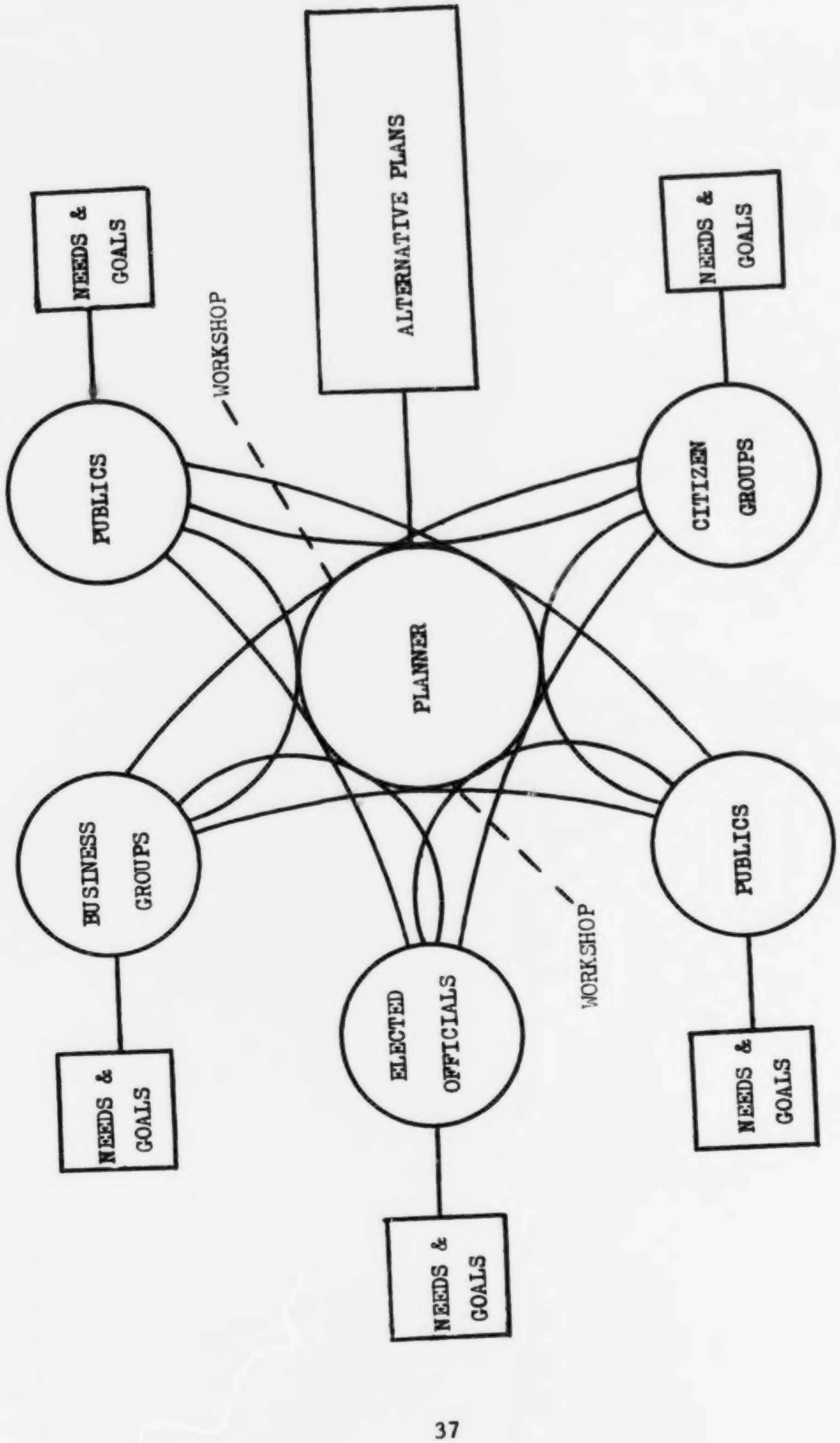

Model No. 4

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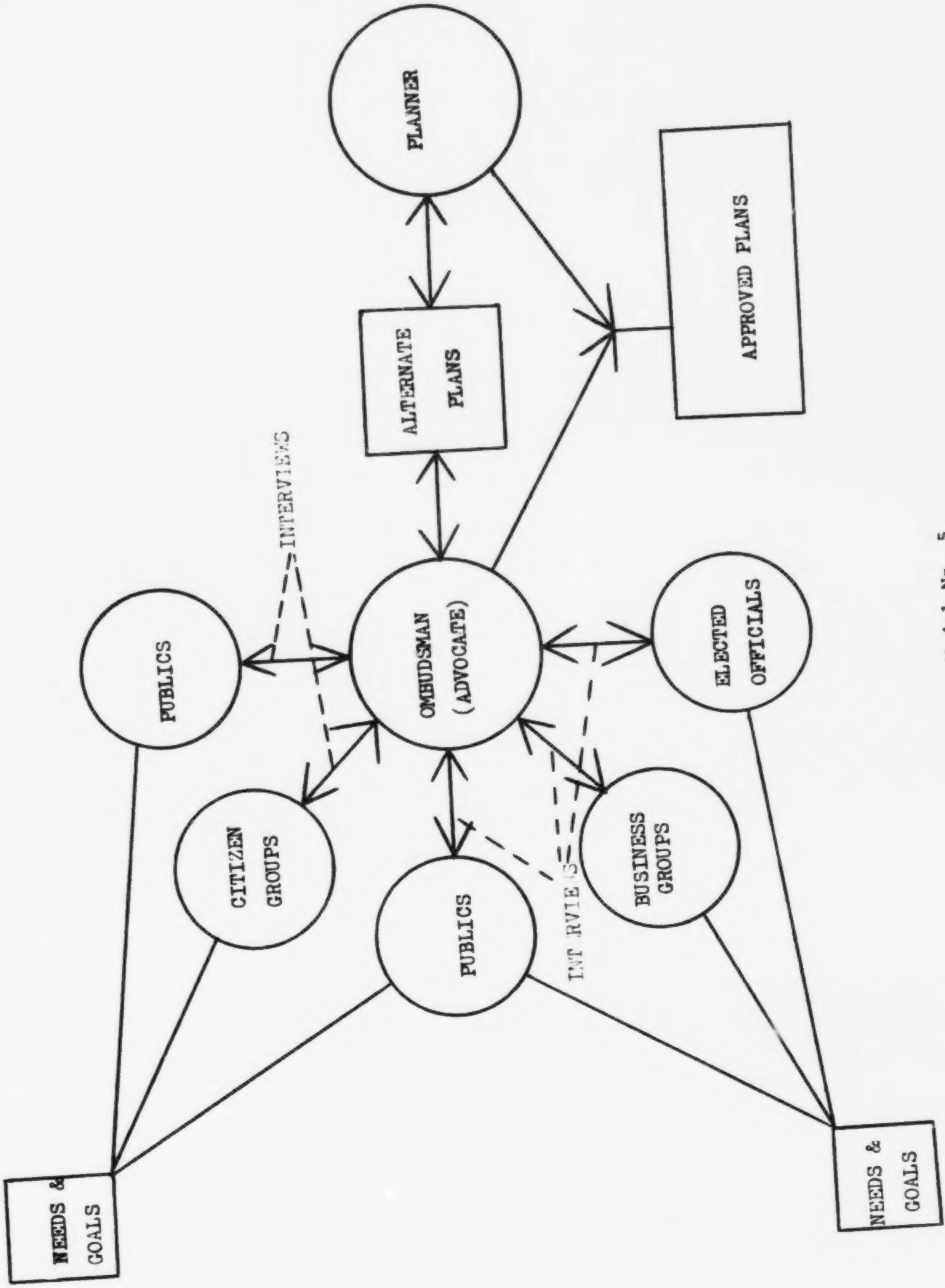

Model No. 5

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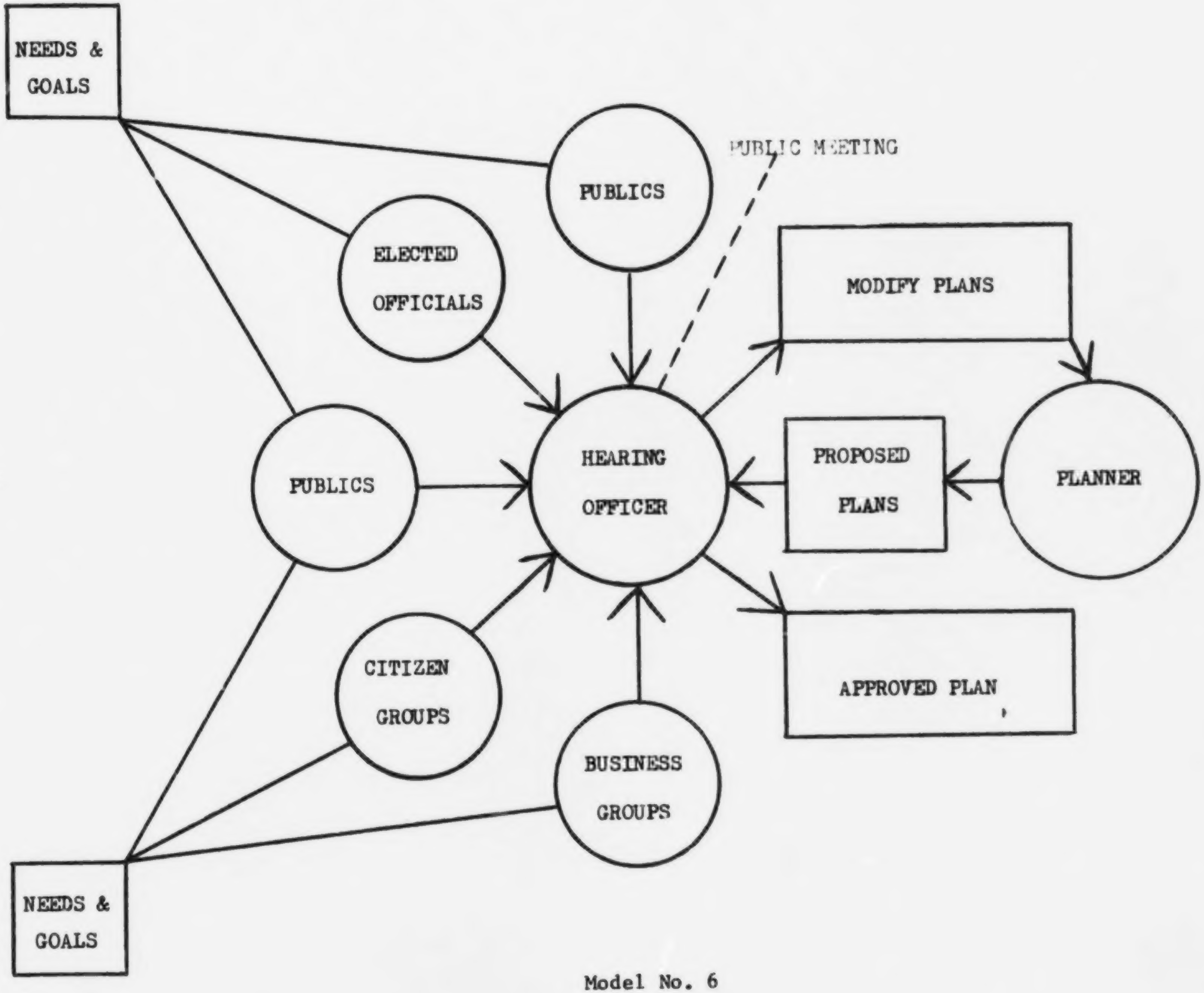

Model No. 6

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Model 7 often labeled Plural Planning is the last of the types of decision models to be presented. In this case each of the publics offers a plan for the resolution of the problem. These alternatives are considered and largely through discussion and compromise a composite plan is developed. In this case the agency is one of the publics involved having no more centrality or importance than any other. All the publics are actively engaged *in planning*.

What we have just looked at are a number of models of the participation process varying from the elitist perspective to a democratic one. Some of the existing techniques for participation have been mentioned in association with the models outlined. Many others are available, such as citizens' advisory boards, informal contacts, surveys, public meetings other than hearings, and task forces. All of these serve different functions in public involvement. A very thorough process of participation would involve a number of these techniques either simultaneously or in sequence. Since they vary in the degree to which the various publics are actually involved in the planning process, they are more or less useful depending on the type of planning which is desired.

One of the difficulties of participatory planning is that it is unpredictable. We have not reached the point that we can choose a technique and be certain that it will work in all situations. At this level human behavior is so diverse that we do not know enough about the stimulus-response relationship to have a high predictability. We can knowledgeably choose certain techniques, but their success is often dependent on variables beyond our immediate control. Agencies interested in involving citizens are dependent on *committed* citizens. They in turn must be aware of problems and solutions. Because of this, it would seem that techniques involving relatively small segments of the total public would be the most useful from an agency's standpoint.

In her report on public participation, Warner indicates the results of a survey in which respondents drawn from various agencies were asked about the utility of techniques of public involvement. Of those techniques reflecting the information-response or interaction dialogue approach, informal contacts were mentioned more than any other techniques--by 87 percent of all respondents; public meetings second--79 percent; citizen advisory boards third--74 percent of all respondents. Public hearings ranked fourth with 70 percent of

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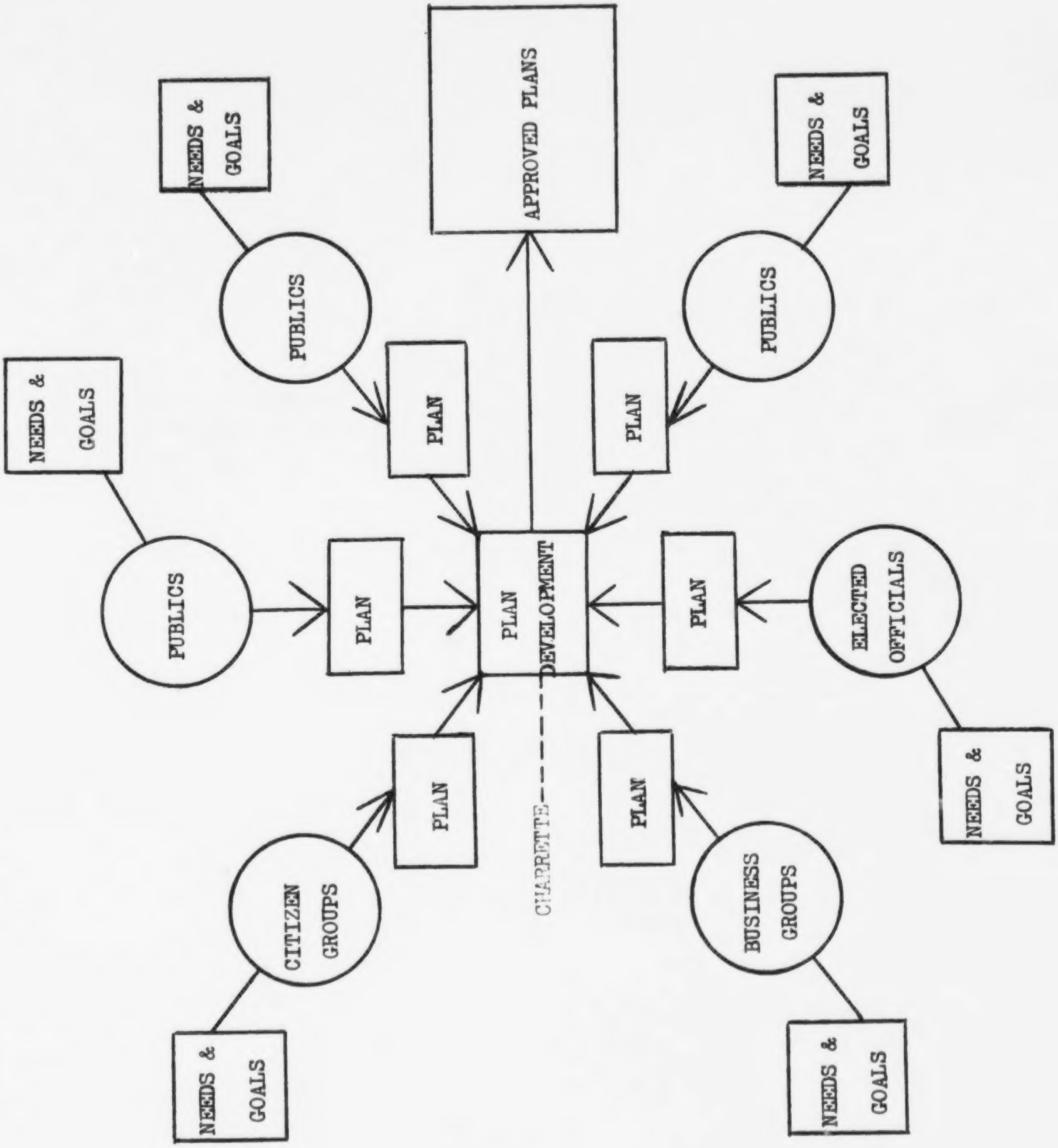

Model No. 7

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respondents mentioning this technique. Citizens' task forces were mentioned by 50 percent and workshops by 46 percent for fifth and sixth places, respectively.

Water resource agency respondents placed informal contacts first. This form was mentioned by 90 percent. Public meetings were second with mentions by 74 percent. Public hearings drew a 73 percent response. Citizens' advisory boards were mentioned as useful by 56 percent; workshops by 41 percent; and citizen task forces by 37 percent.[7] If these results are representative, water resource agencies would tend to see information response approaches to planning as most useful.

In an attempt to further specify the usefulness of the various techniques, Warner develops a weighting system based on respondents ranking technique. The figure on the following page indicates the results of this process. Three weighted ranks for various types of planning agencies are shown here.

The highest weighted type of participation for all respondents was citizen advisory boards. When one looks at the results for the various agencies, however, it is clear that water resources agencies value informal contacts more than other techniques. Similarly, for other rankings the water agencies vary from other agencies.[8]

In general, no special emphasis would seem to be present as far as the information-response or interaction-dialogue approaches are evident. For water agencies the tendency to rely on information-response approaches would again seem evident.

It has not been possible to determine with any certainty how extensively the various techniques we have been discussing are being used. However, a review of 45 project publications in which technique of participation was discussed generated the following list:

Public Hearing	17 projects
Committees or Advisory Boards	17 projects
Mass Media	12 projects
Task Forces	5 projects
Workshops	4 projects
Interviews	3 projects
Meetings	3 projects
Seminars or Symposium	3 projects
Information Contacts	1 project
	65 projects

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Figure 11. Three Highest Weighted Rankings of Public Involvement Mechanisms, by Respondent Agency Type

(Ranking scores were derived by weighting inversely the number of first, second, or third ranks for each mechanism; i.e., first ranks multiplied by 3; second ranks, by 2; and third ranks, by 1)

Respondent Agency Type	Highest Weighted Mechanism	Second Highest Weighted Mechanism	Third Highest Weighted Mechanism
All Respondents	Citizen Advisory Boards	Informal Contacts	Public Meetings
State Water Resources Planning Agencies	Informal Contacts	Citizen Advisory Boards	Public Meetings
Regional Water Resources Planning Agencies	Informal Contacts	Public Meetings	Newspaper Articles
Regional & Metropolitan Comprehensive Planning Agencies	Newspaper Articles	Informal Contacts	Citizen Advisory Boards
City Planning and Redevelopment Agencies	Citizen Advisory Boards	Informal Contacts	Public Hearings
Model Cities Agencies	Citizen Advisory Boards	Citizen Task Forces	Public Meetings
Special Purpose Local Planning Agencies	Citizen Citizen	Advisory Boards Task Forces	Public Meetings

PUBLIC PARTICIPATION IN WATER RESOURCES PLANNING

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JULY 1971

In the list on the previous page it is evident that multiple techniques are being used in an effort to get citizen involvement in planning. However, a limited number of projects actually account for the multiple techniques used.

A review of the Southern Water Resources Scientific Information Center's list of active projects generated 110 projects in which techniques of participation were mentioned. Of these, 91 indicated that the public hearing was to be the vehicle. Other techniques were committees and advisory boards--5 projects; workshops and forums--4 projects; newsletters--3 projects. Task forces, seminars, brochures, surveys and public meetings were also mentioned. In part, the dominance of the public hearing is, of course, a function of the legal requirement that one will be held.

Summary

This paper has attempted to provide some of the rationale for the rising pressure for public participation and to place the efforts in the context of various models of decision making ranging from the elitist or authoritatian approach to the participatory or "democratic" approach. In doing so, it has been evident that the kind of program achieved is a function of the kind of agency and citizen commitment without which no effort to braoden citizen involvement can succeed.

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7. Warner, op. cit., p. 118.

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ACCOUNTABILITY OF PUBLIC WATER RESOURCE AGENCIES: LEGAL INSTITUTIONS FOR PUBLIC INTERACTION

by

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I. Introduction: Philosophy Underlying Agency Creation

The purpose of the analysis contained in the following pages is to examine what legally sanctioned options are available to private individuals and interest groups for interacting with public agencies in the decision process or for mounting a challenge against an agency in the event that the agency fails to abide by its stated or legislated intentions. Prior to embarking on the main part of the analysis, it is both relevant and important to examine the philosophy behind the creation of public agencies in general. Public participation is being emphasized currently as a desirable component of the decision-making process in the public sector. However, excessive, emotional, or ill-informed attempts at participation tend to impose an intolerable burden on society and seriously undermine the continued effectiveness of public agency operation. Thus, to preserve perspective and promote a balanced and objective assessment of the intervention or participation process, it is important not to overlook the fact that the public, through its elected representatives, established the agency initially and provided it with a specific mandate.

Administrative agencies are branches of the executive established either by legislation or by executive order. The scope of an agency's activity is limited by the enabling legislation. Similarly, an agency's power is limited to what could be done by the legislative or executive branches of government in the absence of the agency. Thus, the basic considerations in creating an agency are to enhance efficiency and utilize technical expertise which would otherwise not be available and, in the interests of efficient action and sound decision-making on specialized matters, to isolate the decision process and control of the action from the political arena.[1] Ideally, then, an agency's enabling legislation will establish the proper public policy and the agency will act efficiently and without interference to implement that policy within the confines of its mandate.

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[1] See: Sause, Municipal Authorities, The Pennsylvania Experience (Commonwealth of Pennsylvania, Bureau of Municipal Affairs, 1962) pp. 1-10, 39-49.

Clearly, it would be impossible for the Congress and the President to deal, on a day-to-day basis, with all the questions and decisions handled by the Federal agencies. It is similarly impossible for the Congress and the President to possess sufficient knowledge and expertise to make sound decisions. Furthermore, once it has been decided that a certain course of action such as flood control or water pollution abatement is in the public interest, it is clear that to subject every subsequent decision to the political process would be hopelessly inefficient and unworkable.

These considerations provide the context and philosophical rationale surrounding the creation of a public agency. However, the discussion suggests an ideal world of perfection in performance, full knowledge of the optimum course of action, and total responsiveness on the part of each agency to the interests and policy considerations which led to its establishment. Obviously, these are utopian assumptions inconsistent with an uncomfortable world of inflexibilities, imperfections, conflicting interests and interpretations, and the inherent pressure to expand and usurp an ever-increasing operating territory.

Thus, valid questions arise. Fundamental, of course, is the question of how may the public restrain or constrain an agency within its legislated boundaries. A related question is that of how much public involvement or challenge should be allowed recognizing that there is a trade-off between providing the time, opportunity, and other resources for public participation and the gain in increased involvement or provision for public challenge. It must be recognized that public participation carries a high price. How much public participation in agency decision-making should be fostered recognizing that the agency itself was created in the interests of efficiency and enhanced decision-making ability? Finally, there is a question of how to combat the tendency of agencies to develop "tunnel-vision" if left to their own devices. In other words, what system of checks and balances is available for the public to ensure that the full breadth of the agency's mandate is respected and that the agency does not develop a "we know best what's good for you attitude"?[2]

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[2] Hearings before the House Committee on the Judiciary, Port of New York Authority. 86th. Cong. 2nd. Sess. pp. 636-40, 660-62, 667-69 (1961).

These questions and others will be addressed during the course of this discussion. A review of the state-of-the-arts with respect to legal mechanisms and procedures will be presented first. This will be followed by a somewhat hypothetical review of legal developments which show potential for promoting increased effective public participation in agency decision-making in the area of water resources.

II. Legal Grounds for Intervention

It might be concluded from the introductory discussion on the rationale for public agency creation that there are no legal grounds for citizen involvement in the affairs of government agencies. In fact, this conclusion is supported by the observation that there is no statement, explicit or implicit, in the Constitution guaranteeing the existence of a right for citizens to participate in agency affairs. For instance, in a 1968 Pennsylvania case,[3] the court considered a claim by plaintiffs that they had been deprived of due process of law by being denied a hearing before an urban renewal grant was made. The plaintiffs were property owners whose property would be condemned if the project was approved. The court held that there was no constitutional right to such a hearing; and furthermore, if there were no statutory provision for such a hearing, then there was no right to a hearing at all. This is not to say that there was no right of the plaintiffs to present their views. The Secretary of HUD had offered the plaintiffs the opportunity to make their objections known.

In a 1971 Supreme Court Case,[4] however, this decision was cast in some shadow by the ruling that a citizens group was to be provided the opportunity to express its views regarding highway construction in a park at a public hearing and that in denying this opportunity, the Secretary of Transportation was acting in derogation of law. This was not a definitive overruling of the Pennsylvania case since the Supreme Court decision was based on a congressional mandate that highway routes through parks should only be used as a last resort. Thus, there was applicable law in existence. The salient feature of each case is that the only required public involvement was that mandated by statute, an observation that raises the general question of the extent to which the right to intervene in agency proceedings is dependent upon the existence of a right created by statute.

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[3] Powetton Civic Homeowners Association vs. Dept. Housing and Urban Development, 284 F. Supp. 809 (E. D. Pa. 1968).

[4] Citizens to Preserve Overton Park v. Volpe, 401 U. S. 402 (1971).

Whether or not statutory authority for intervention is necessary appears to be an undecided issue at present. Of course, where the right of intervention is specifically addressed by statute, there is no controversy and where the right of intervention is specifically precluded by statute, such limits are observed and, again, no controversy exists. However, these are two extreme ends of a spectrum and "specific statutory provisions explicitly controlling intervention are exceptional . . ."[5] A lot of intermediate ground is left uncovered and the critical consideration then becomes one of whether the party who wishes to intervene has standing to request judicial review.[6] This particular issue will be addressed in the next section.

The Administrative Procedures Act of 1946[7] might be expected to add some direction to the intervention question in that the congressional intent of the Act was to assure uniform adherence to general standards of fairness while retaining the sovereignty of each agency. Two sections of the Act contain language relevant to public intervention in agency proceedings. Section 5(b) reads in part:

> (An) agency shall give all interested parties opportunities for (1) the submission of facts, arguments, offers of settlement, or proposals of adjustments where time, the nature of the proceeding, and the public interest permit . . .[8]

and Section 6(a) reads in part:

> So far as the orderly conduct of public business permit, an interested person may appear before an agency or its responsible employees for the presentation, adjustment, or determination of an issue, request for controversy in a proceeding . . . in connection with an agency action.[9]

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[5] National Welfare Rights Organization v. Finch, 429 F. 2d 725, 732 (D.C. Cir. 1970).

[6] American Communications Association v. United States, 290 F. 2d 648 (2d Cir 1962).

[7] Administrative Procedures Act, 5 U. S. C. Sec. 702, 1946.

[8] Ibid. Section 5(b).

[9] Ibid. Section 6(a).

Unfortunately, the impact of these statements is small. The application of Section 5(b) is constrained by the works "time, the nature of the proceeding, and the public interest" while Section 6(a) is conditioned by "the orderly conduct of public business." Both of these limitations indicate a congressional intent to leave the final decision on intervention within the agency itself. Furthermore, the potential usefulness of the Administrative Procedures Act with respect to public participation is additionally constrained by the fact that the Act does not specifically use the terms "intervention" or "participation" but rather makes loose and general statements about "public appearance." While the congressional intent of the Act might have been to retain agency sovereignty with respect to one another, the practical effect has been to promote agency sovereignty with respect to its "publics." Agencies are left with a relatively free reign in applying their own statutory and regulatory requirements regarding who may intervene on a given matter and what form that intervention may take.

Litigation surrounding intervention has not relied very heavily on authority provided by the Administrative Procedures Act. It has been held[10] that Section 5(b) quoted above does not impose the requirement for an adversary hearing but only specifies the procedure to be used when such a hearing is required by some other statute. Another court[11] has ruled first that an "interested party" under Section 5(b) must have a "legal interest" either as a common law interest or an interest specifically created by statute, and second, that Section 5(b) was not meant to serve as the basis for a definition of standing but only as a basis for providing for informal settlement. These interpretations leave Section 5(b) practically useless as authority for forcing intervention in agency proceedings.

A 1967 case[12] further reduced the potential of the Administrative Procedures Act as an avenue for challenging agency actions. In this case, it was held that an agency, in its discretion, may limit both the number of parties appearing before it and the type of issues it will consider. The court concluded:

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[10] Webster Groves Trust Co. v. Saxon, 370 F. 2d 381 (8th Cir. 1966).

[11] Local 282, International Brotherhood of Teamsters, Chauffeurs, Warehousemen, and Helpers of America v. National Labor Relations Board, 339 F. 2d 795 (2d Cir. 1964).

[12] City of San Antonio v. Civil Aeronautics Board, 314 F. 2d 326, 126 U. S. App. D. C. 112.

> Petitioners arguments concerning intervention seem to be predicated on the assertion that all parties interested in a proceeding have a right to participate as full parties. There is no such right.
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> It is true, of course, that this court has held that a party with a substantial interest in the proceeding has a right to intervene [cit. omitted]. But a finding of "substantial interest" must be related to a particular proceeding. And a proceeding must be manageable . . .[13]

Section 6(a) of the Administrative Procedures Act appears to provide more direct treatment of public intervention. Nevertheless, its wording still provides for a good deal of agency discretion. In that it is an inherent agency function to determine what will constitute the "orderly conduct of public business," the individual agency will retain the power to determine whether a given party may intervene. A 1962 Second Circuit Court interpretation,[14] however, noted that this particular section of the Administrative Procedures Act could serve as a restriction on the power of an agency to deny public intervention. In a footnote to the dissent in a 1973 case,[15] the four justices dissenting acknowledged that Section 6(a) of the Act may limit this power although, in discussing the right to intervene, the court indicated a reluctance to use the Act as grounds for interference with the agency's conduct of its own affairs.

Thus, it would appear that the public has little or no right to be involved in agency activities except and unless a member of the public has a substantial interest in the proceedings and except and unless the agency is under statutory requirement to foster and permit such involvement. The general conclusion at this point is that the public has no constitutional right to become an active participant except where provided by statute. Agencies, as branches of government, are entitled to order their operations and procedures as they see fit.

This conclusion, however, is not quite as final as it may appear. There have been substantial legal developments under the Administrative Procedures Act and elsewhere on the question of standing to seek judicial review. This issue will be addressed in the next section.

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[13] Ibid. at 117, 118.

[14] American Communications Association v. United States, 298 F. 2d 648 (2d Cir. 1962).

[15] Ricci v. Chicago Mercantile Exchange, 409 U. S. 289 (1973).

III. Standing to Seek Judicial Review

While it does not appear that an individual has any constitutional right to intervene in agency proceedings, there remains the provision for requesting judicial review of agency action if a party has been legally wronged. For example:

> A person suffering legal wrong because of agency action, or adversely affected or aggrieved by agency action within the meaning of a relevant statute, is entitled to judicial review thereof.[16]

Clearly, under this statute a person who has been legally wronged has standing. Furthermore, a person who is "aggrieved by agency action within the meaning of the relevant statute" has standing, but this does no more than refer back to the statutes creating the particular agency.[17] The key phrase in Section 10(a) quoted above is "adversely affected." The interpretation of this phrase is critical to a party seeking judicial review, but to date, no uniform interpretation has been reached. There are two major schools of thought on this subject each identified by a particular commentator.

Professor Jaffe argues that the phrase "adversely affected" is modified by the following phrase "within the meaning of a relevant statute."[18] This interpretation would mean that the existence of standing would be dictated by the individual agency statutes. Certain lower federal courts have taken Jaffe's position. However, two cases decided in the Circuit Court for the District of Columbia[19,20] indicate a newer concept whereby "adversely affected" persons are those who are harmed in fact and thereby have standing. This latter concept more closely corresponds to the interpretation provided by Professor K. Davis who sees the phrase "adversely affected" as a separate and independent test for standing.[21] Thus, persons who have been harmed in fact will have standing to seek judicial review.

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[16] Administrative Procedures Act, Section 10(a), 5 USC Section 702.

[17] For instance, 49 USC Section 1486 which provides for review of actions taken by the Civil Aeronautics Board.

[18] Professor L. Jaffe, Judicial Control of Administrative Action, p. 473 (1965).

[19] Kansas City Power and Light Co. v. McKay, 225 F. 2d 924 (1955).

[20] Scanwell Laboratories v. Shaffer, 424 F. 2d 859 (1970).

[21] Professor K. Davis, Administrative Treatise, Sec. 22.01 (1958).

The Senate Report on the Administrative Procedures Act supports Professor Davis' theory stating "Very rarely do statutes withhold judicial review" and acknowledging that judicial review of administrative action is proper whenever there is sufficient law for the court to arrive at a decision.[22] Furthermore, the Supreme Court has upheld judicial review of agency action at any time unless there is a statute specifically excluding review.[23] Thus, while Sections 5(b) and 6(a) of the Administrative Procedures Act seem to require statutory authority before intervention is allowed, Section 10(a) of the same Act does appear to be effective for providing standing for persons adversely affected by an agency's actions whether or not there is other statutory authority providing for standing.

In the absence of any statute directly conferring or denying the right of intervention to a party, the tests for standing to seek judicial review will be used. These tests, however, have not remained static. By 1970, they had been liberalized to the extent that Judge Wright of the D. C. Circuit Court could state that:

> The Supreme Court has recently made it clear that standing for purposes of judicial review need not flow from any express congressional grant.[24]

Judge Wright used two 1970 companion cases[25,26] as authority for this statement. These cases establish a two-pronged test to determine whether a party has standing to seek judicial review. This test is:

> whether the plaintiff alleges that the challenged action has caused him injury in fact, economic or otherwise. . . and whether the interest sought to be protected by the complainant is arguably within the zone of interests to be protected or regulated by the statute or constitutional guarantee in question.[27]

On several occasions, the second part of this test has been rejected so that standing and intervention rights would be determined strictly on the showing of "injury in fact."[28] Often the "zone of interest" test will be mentioned but no analysis is made to determine if it has been met. If only the injury in fact test is used to determine standing, there certainly is no need for specific statutory authority to intervene.

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[22] Senate Report on Administrative Procedures Act, 79th Cong., 1st Sess., S. Rep. No. 752 (1965) Section IV, "Analysis of Provisions."

[23] Abbott Laboratories et al. v. Gardner, 387 U. S. 136 (1967).

[24] National Welfare Rights Organization v. Finch, 429 F. 2d 733 (D. C. Cir. 1970).

[25] Association of Data Processing Service Organizations, Inc. v. Camp, 397 U. S. 150 (1970).

[26] Barlow v. Collins, 397 U. S. 159 (1970).

[27] Data Processing Service, Supra at 152, 153.

Although decided five years before most of the cases cited in the last few paragraphs, the Scenic Hudson Preservation Conference case used a similar two-pronged test to establish that several towns and the Scenic Hudson Preservation Conference itself had the right to intervene in the Federal Power Commission hearings on the Storm King Electrical Project.[29] In discussing the right of intervention, the court observed that the Storm King project was to be located "in an area of unique beauty and major historical significance," that members of the public had rights in such "scenic resources" and that the public's interests in these resources could not be measured in dollars and cents.[30] Thus, the court decided that the plaintiffs would be injured in fact by a decision to go ahead with the project. Furthermore, Section 10(a) of the Federal Power Act, quoted by the court, shows that the interests sought to be protected here are "arguably within the zone of interest" which the statute protects.

> (a) The project adopted shall be such as is in the judgment of the Commission will be best adapted to a comprehensive plan for improving or developing a waterway or waterways for the use or benefit of interstate or foreign commerce. . . and for other beneficial public uses, including recreational purposes.[31] (emphasis added)

Although this section of the Act fulfills the criteria for the "zone of interest" test, it does not specifically grant the right of intervention. Indeed, later in the opinion, in order to counter the Federal Power Commission's argument that there will now be a flood of interveners, the Court states that, "In any case, the Federal Power Act creates no absolute right of intervention."[32] As authority for this statement, the court uses the one section of the Act which deals explicitly with this problem.

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[28] See for example Justice Brennan's dissent in the Data Processing Service, Supra; Keco Industries v. United States, 428 F. 2d 1233 (Ct. Cl. 1970); Blackhawk Heating and Plumbing Co. v. Driver, 433 F. 2d 1137 (D. C. Cir. 1970); Ballerina Pen Co. v. Kunzig, 433 F. 2d 1204 (D. C. Cir. 1970).

[29] Scenic Hudson Preservation Conference v. F.P.C., 354 F. 2d 608 (2d Cir. 1965).

[30] Ibid., at 613, 614.

[31] Federal Power Act, 16 U.S.C. Section 803(a).

[32] Scenic Hudson Preservation Conference, Supra, at 617.

> In any proceeding before, the Commission, in accordance with such rules and regulations as it may prescribe may admit as a party any interested state. . . municipality, or any representative of interested consumers. . .[33] (emphasis added)

Clearly, this section could not have been used to support the proposition that the plaintiffs in this case had a statutory right to intervene. Instead, the court showed that the plaintiffs had been injured in fact and that their interests were arguably among those sought to be protected by the statute in question. In so doing, the court anticipated the standing test proposed five years later by the Supreme Court.

IV. The Limitations of, and Criteria for, Judicial Review

Several standards are commonly employed in judicial review of agency actions. Actions unreasonably withheld or delayed may be compelled. Actions may be reversed or set aside for being arbitrary and capricious, contrary to constitutional right, in excess of statutory jurisdiction, taken without compliance with procedural rules, or unsupported by substantial evidence. In addition, there is a provision allowing for a review de novo, in some cases where the court may hear the facts and substitute its judgment for that of the agency. However, the extent of this review is limited.

> . . . the power of those agencies is circumscribed by the authority granted. This permits the courts to participate in law enforcement entrusted to administrative bodies to the extent necessary to protect justifiable individual rights against administrative action fairly beyond the granted powers.[34]

Once a court adopts the review of an agency action, it is difficult to say which standard it will use. On the one hand, the arbitrary and capricious standard gives the plaintiff the most difficult burden of proof as he must show the action to be unreasonable and unjustified. The standard of substantial evidence, on the other hand, is more difficult for the agency as it must then show that its action was based on facts.

The limitations on the scope of judicial review represent only one hurdle to be overcome by the plaintiff seeking to challenge an agency's actions. There are also a number of procedural criteria which an individual must satisfy in order to obtain judicial review, and these criteria are, to some extent, dependent on the basis of the request for review. For example, in an action alleging failure to comply with the provisions of NEPA, it is easier to obtain a hearing challenging agency failure to comply with a statutory mandate[35] than it is to prove an injury since the agency itself must prove compliance with NEPA.

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[33] 16 U.S.C. Section 825 g(a).

[34] Stark v. Wichard, 321 U. S. 300 (1944)

The first procedural requirement to be satisfied is exhaustion of the available administrative procedures for relief. A court will generally refuse to hear a case which has not been through the chain of administrative review and relief refused at the highest level.[36] The next barrier is the requirement that a plaintiff be personally injured in some fashion by the action he is contesting. This requirement is founded, of course, in the constitutional principle that federal courts adjudicate controversies and do not give advice.

This requirement of substantial injury as a prerequisite to judicial review is found in the language of the Administrative Procedures Act[37] mentioned previously and was restated recently in the celebrated Mineral King case.[38] In this case, the Sierra Club sought to challenge a lease of national forest land to Disney Enterprises by the United States Forest Service. The Supreme Court dismissed the suit. It found that the Sierra Club had alleged a special interest in conservation and maintenance of the national forests as basis for its standing and this, the Court said, was insufficient to confer standing. The Court found that the Sierra Club needed to allege injury to itself or its members.

The requirement of injury is not as restrictive as it might appear. In discussing what would give the Club standing, the Court indicated that a simple allegation that a member who had used the area for hiking purposes and who would be deprived of that use would be sufficient. Subsequently, in 1973, the Supreme Court further discussed the question of standing and arguably implied that an injury to aesthetic values would be sufficient to constitute standing.[39]

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[35] Such as NEPA, Supra, Section 102 (2)(c).

[36] Coalition for Safe Nuclear Power v. Atomic Energy Commission, 463 F. 2d 954 (D. C. Cir. 1972).

[37] Administrative Procedures Act, 5 U. S. C. Sec. 702 et seq.

[38] Sierra Club v Morton, 405 U. S. 727 (1972).

The decision in the Sierra Club case was a blow to the concept of general public challenge of agency actions in one sense, but it was expansive in another sense. The Court gave extensive consideration to who may challenge an action and on what basis. In the course of its opinion, the Court cited two cases[40,41] supporting the proposition that once a plaintiff has established his own standing he may then raise issues involving the collective or public interest.

> But once review is properly invoked, that person may argue the public interest in support of his claim that the agency has failed to comply with its statutory mandate.[42]

Strictly speaking, the Court's decision dealt only with criteria for judicial review arising under the Administrative Procedures Act. However, the Court did not specifically limit its findings to cases arising under this Act nor was any reason given why the decision should be so limited. In the 1973 SCRAP case referred to above, the Court specifically held that private individuals may sue on injuries which are public in nature. It might be interpreted that this is essentially the same thing as saying that private individuals may raise questions of the public interest.

This ruling has potentially far-reaching implications for public participation in agency decision-making and would appear to be leading towards some kind of a public trust doctrine in water resources. However, two recent cases have thrown this development into doubt or at least placed yet another major obstacle to be overcome before a plaintiff may obtain judicial review of agency actions.

Obtaining judicial review is not only dependent upon the plaintiff satisfying the standing criteria. It is also necessary to establish federal jurisdiction if the suit is to be heard in federal court. Under Section 1331(a) of the Federal Water Pollution Control Act, requirements for federal jurisdiction include stipulations that the amount in controversy must exceed $10,000 and the action must arise under the laws of the United States.[43]

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[39] United States v. SCRAP, 412 U. S. 669 (1973).

[40] Scripps Howard Radio v. F.C.C., 316 U. S. 4 (1942).

[41] F.C.C. v. Sanders Bros. Radio Station, 309 U. S. 409 (1940).

[42] Sierra Club, Supra, at 737.

The first, 1972, case[44] involved a motion filed by the State of Illinois seeking leave to file a bill of complaint against four Wisconsin cities and two local sewerage plants forcing them to stop pumping sewage into Lake Michigan. Illinois had hoped to invoke the Supreme Court's jurisdiction under statute providing that the Court shall have "original and exclusive jurisdiction of all controversies between two or more states. . ."[45] However, the Court declined to accept this characterization of the case. They held instead that the next section of the statute[46] dealing with action by a state against citizens of another state applied in which case jurisdiction of the Supreme Court was not exclusive and the proper forum was a district court as authorized by Section 1331 (a):

> The district courts shall have original jurisdiction of all civil actions wherein the controversy exceeds. . . $10,000 . . . and arises under the Constitution, laws or treaties of the United States.[47]

Under this last statute a two-fold requirement for jurisdiction was established, (1) the $10,000 limitation, and (2) the consideration of whether the issue in question (pollution of interstate waters) arose under the laws of the United States. The Illinois decision held that:

> The considerable interests involved in the purity of interstate waters would seem to put beyond question the jurisdictional amount. . .[48]

and that the action did arise under the laws of the United States.

In a similar 1973 case,[49] a class of property owners along the shores of Lake Champlain claiming to have suffered specific property damage due to pollution discharged into the lake by the International Paper Company sought jurisdiction under provisions of the Water Pollution Control Act[50] which, as in the previous case, requires an amount in controversy exceeding $10,000. However, only four members of the class alleged damages exceeding this amount while the others, the Court felt, could not claim such extensive individual damages. Thus, the Court held that this claim could not be maintained as a class action in Federal court.

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[43] 28 U.S.C. 1331 (a).

[44] Illinois v. City of Milwaukee, 406 U. S. 91 (1972).

[45] 28 U.S.C. Sec. 1251 (a) (1).

[46] 28 U.S.C. Sec. 1251 (b) (3).

[47] 28 U.S.C. Sec. 1331 (a).

[48] Illinois, Supra, at 98.

[49] Zahn v. International Paper Co., --U.S.--, 94 S. Ct. 505 (1973).

The implications of these two cases are important but somewhat indecisive on certain issues. They both underscore the three-fold requirement for jurisdiction in federal court; namely, the $10,000 minimum amount in controversy, the source of the action being under the laws of the United States, and the requirement that interstate or navigable waters are involved. These are quite stringent conditions for an individual to meet in seeking judicial review of agency actions in Federal court. The Zahn decision limits the effectiveness of class action suits by establishing conditions to be met by each member of the class. Of course, these decisions do not provide any direction to actions brought under statutes other than those contained in the Water Pollution Control Act Amendments of 1972. Such actions would be entirely separate and unrelated matters. The implication remains that the Federal courts are not going to burden themselves with minor issues, defined as those involving an amount in controversy of less than $10,000, at least as far as actions involving pollution of navigable waters are concerned. Another implication may be drawn from the Zahn case to the effect that had the members of the class of property owners brought suit as an organization (rather than as individuals in a class action), and had they sought injunctive relief (rather than damages), they might have been successful. This, however, is speculation. It is interesting to observe that these particular sections of the Water Pollution Control Act of 1972 were designed to provide for suits brought by the United States against the states or other polluters of navigable or interstate waters. However, the Court saw fit to expand the authority of the Act to include an action involving a state versus private interests on the grounds that in the case of air and water, an aspect of federal common law is involved. As yet, this concept has not been expanded to the point where individuals have been able to take advantage of it.

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[50] 28 U.S.C. Sec. 1332 (a).

Requirements for establishing jurisdiction under the Water Pollution Control Act Amendments of 1972 initially appear to be quite well-defined, although there are indications of increased liberalism and the matter has yet to stabilize. A relevant and parallel issue concerns the jurisdictional requirements, if any, necessary to bring an action in Federal court under the Administrative Procedures Act. Several cases have addressed problems dealing with jurisdiction under this Act. In particular, the Third Circuit has several times confronted the question of whether the Administrative Procedures Act can grant jurisdiction independently of other statutes. The general conclusion has been that:

> There is nothing in the Act which extends the jurisdiction of either the district courts or the appellate courts to cases not otherwise within their competence.[51]

This point of view was reaffirmed in a more recent district court opinion in which Federal jurisdiction was sought on the alternative grounds of Section 1331 (a) of the Water Pollution Control Act Amendments and Sections 701 and 702 of the Administrative Procedures Act.[52] In a memorandum order, Judge Peckham rules that the sections of the Administrative Procedures Act in question did not confer jurisdiction and that the $10,000 minimum amount under the Water Pollution Control Act Amendments would have to be met. Thus, Sections 701 and 702 of the Administrative Procedures Act are remedial rather than jurisdictional statutes and do not, in and of themselves, confer jurisdiction in Federal courts. The Act merely addresses the scope of review available once jurisdiction is properly established pursuant to some other statutory grant. If the suit involves pollution of interstate waters, Section 1331 (a) of the Water Pollution Control Act Amendments still remains the most effective statute for receiving Federal jurisdiction. If the suit involves some other water or environmental considerations, recourse will have to be found in the statutes describing the jurisdictional requirements of other pertinent Acts.

V. The Limits of Agency Obligations

As discussed previously, administrative agencies are created by, or with, the approval of Congress, and agency obligations are described and circumscribed by their enabling statutes. The extent to which agencies are obligated to consider the recommendations and demands of individuals or groups is correspondingly defined by statute.

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[51] *Local 542, International Union of Operating Engineers* v. *U.L.R.B.*, 328 F. 2d 850, 854 (3d Cir.), *cert. denied*, 379 U.S. 826 (1964); *accord*, *Zimmerman* v. *United States*, 422 F. 2d 326, 330 (3d Cir. 1970).

[52] *CCCO-Western Region* v. *Fellows*, 359 F. Supp. 644 (N.D. Cal. 1972).

In general, the courts will hold that an administrative agency must follow its congressional mandate whether that mandate be explicit or implicit.[53] Such holdings limit the obligations of an agency to the extent that actions deemed to be beyond the implied scope of its activities, or which are not specifically allowed by statute, are improper. Thus, in many cases, attempts at public intervention may be limited by the ruling that the requests of the intervening parties represent issues beyond the mandated scope of the subject agency.

An example of this kind of limitation may be found in a 1970 District Court case[54] in which the court found the action by the Corps of Engineers of considering the effects on wildlife in passing on a dredging permit to be beyond the Corps' authority. The Circuit Court of Appeals reversed this decision finding that specific statutory authority existed[55] requiring the Corps of Engineers to consider the issues of wildlife and the environment. Thus, the Court of Appeals did not really expand the agency's scope of activity but found the lower court's interpretation of the limits to be somewhat narrow. Whether or not an agency is willing to consider collateral issues raised by individuals is immaterial since the agency may not do so unless such issues are within its grant of authority. Of course, to some extent, agencies now have a congressional mandate from the National Environmental Policy Act (NEPA) to consider environmental matters,[56] but even this Act provides no inherent right to the public to force consideration of any issues.

In general, there can be no advisory commissions, ombudsmen, or overseeing boards without statutory provision and an agency is under no obligation to provide such institutions. An example of the existence of such a provision is contained in the 1972 Amendments to the Federal Water Pollution

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[53] See, for example: United Steelworkers of America v. N.L.R.B., 390 F. 2d 846 (D. C. Cir.); cert. denied, 391 U. S. 904 (1968).

[54] Zabel v. Tabb, 430 F. 2d 199 (5th Cir.); cert. denied, 401 U.S. 910 (1970).

[55] For example: National Environmental Policy Act, 42 U.S.C Section 4332 (1969) and the Fish and Wildlife Act, 15 U.S.C. 713 C-3; 16 U.S.C. 742 (a), et seq. (1956).

[56] NEPA, Section 102 (2) (c).

Control Act.[57] Section 503 (a) (1) of this Act provides for a Water Pollution Control Advisory Board whose responsibility is to "advise, consult with, and make recommendations to the Administrator [of EPA] on matters of policy,"[58] It might be argued from the inclusion of this section in the Act that Congress recognized the need for specifically providing for outside participation in agency affairs which would otherwise not be permissible. However, the functions of the Board are limited to those specified and the issues brought to the attention of the Administrator by the Board will be determined by the Board so that a clear avenue for public involvement will not be provided.

It has been argued that the Freedom of Information Act[59] may provide a mechanism through which the public may interact with an agency. However, this Act merely provides the public with a right to information from an agency concerning the latter's activities, decisions, and rule-making with certain specified exceptions such as information regarding internal agency practices.[60] The Act does provide that a citizen may bring an action to force disclosure of information, but the only duty of the agency is to disclose. There is no requirement for continued interaction. While the information may be useful to the citizen, his use of it to challenge the agency's activities is regulated by other statutes such as those governing intervention and standing and jurisdiction discussed earlier.

VI. Some Prospects for Promoting Agency Accountability

The tone of the discussion so far has been largely negative. It has been pointed out that there is no inherent public right to be involved in agency decision processes except to the extent allowed by law. It has been pointed out that there are substantial problems involved in seeking to force accountability of public agencies by challenging their actions. These include problems of standing, injury, judicial review and statutory jurisdiction, all of which combine to form a significant deterrent to public involvement. Furthermore, although not specifically addressed above, it might be pointed out that such institutions as agency review or advisory boards, agency ombudsmen performance bonds, and moratoria on agency actions are either limited by enabling statutes or are unfeasible and unmanageable. Thus, it might be concluded that the existing legal structure is not particularly amenable to fostering public participation in water resource decision-making or any other administrative agency action.

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[57] Federal Water Pollution Control Act Amendments, 33 U. S. C. Sec. 1251, et seq.

[58] Ibid., Sec. 503 (a) (1).

[59] Freedom of Information Act, 5 U.S.C. Sec. 552.

[60] Ibid., Sec. 552 (b) (2).

In this concluding section, a speculative review of some alternative prospects for enhanced public involvement will be made. Four methods of promoting responsiveness to public input on the part of agencies will be addressed briefly. These are the public trust doctrine, an environmental court system, common law remedies, and a Constitutional Amendment guaranteeing the right to a quality environment.

The Public Trust Doctrine

The public trust doctrine, espoused by Professor Joseph L. Sax,[61] has its foundations in the common law. As interpreted by Sax, the doctrine states that certain interests, such as water, have such importance to the public as a whole that it is unwise for these interests to be subject to private ownership. In this context, water resources should be freely available to all and used in the interests of the general public. Thus, when an agency acts in such a fashion as to benefit a small interest group or contrary to the principle of free public use and enjoyment, the action should be challengeable as a violation of the public trust.

To date, this doctrine has never been made the central issue of a case in a Federal court. However, it would seem from its very nature that the doctrine might be appropriately argued when the issue of the public interest is raised. Of course, as previously explained, the party making the argument must be qualified to appear before the court.

The Environmental Court

The 1972 Amendments to the Water Pollution Control Act provide for a study of a proposed environmental court.[62] One of the principle commentators in support of such a concept has been Professor Scott Whitney of the William and Mary Law School who, in a recent law review article,[63] argues that no less a body than the Supreme Court has itself recognized the great complexities involved in environmental suits.[64] In this particular case, the Court refused to accept the original jurisdiction of a suit by Ohio against a Michigan corporation and other foreign corporations attempting to enjoin them from discharge of mercury into Lake Erie. The Court stated that due to the complexities of environmental litigation and the already pressing demands on its time, it would refuse to accept jurisdiction. It further stated that a federal court could not properly take jurisdiction of the suit, but that an Ohio court would be competent to decide the issues raised since these involved public nuisance law.[65] The Court's refusal to accept original jurisdiction in this case and their dismissal of the Illinois case discussed above[66] to be heard in Federal district court are taken by Whitney to indicate that environmental cases are too complicated for the present courts.[67]

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[61] J. L. Sax, Public Trust Doctrine in Natural Resources Law, 68 Mich. L. Rev. 473 (1970).

[62] P. L. 92-500, Title V, Section 9.

There are, of course, a number of persuasive philosophical arguments for an environmental court as Whitney observes. For example, one desirable feature of such a court would be the establishment of uniformity of decision in environmental cases. Another would be in reduction of the district court workload and, by limitation of the right to appeal, a reduction in the time which it takes to completely litigate an environmental case Furthermore, it is argued that by limiting the court to strictly environmental cases, the court would gain a level of expertise in the area which would yield quicker and higher quality decisions.

The Land and Natural Resources Division of the Department of Justice has been studying the case for an environmental court[68] and, in taking a tentative position in opposition to the creation of an environmental court, the following factors are itemized:

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[63] S. Whitney, The Case for Creating a Special Environmental Court System, 14 Wm. & Mary L. Rev. 473 (1973).

[64] Ohio v. Wyandotte Chemicals Corporation, 401 U. S. 493 (1970).

[65] Ibid., at 504, 505.

[66] Illinois v. City of Milwaukee, Supra, note 44.

[67] The Case for an Environmental Court, Supra, note 82 at 477-482.

[68] Walter Kiechel, Jr., Environmental Court Vel Non, 3 ELR 50013 (1973).

1. No workable definition of an environmental case has been advanced.
2. The total number of environmental cases is not now nor projected to be sufficient to justify creation of a separate court.
3. There is little reason to believe that a specialized environmental court would prove more efficient or superior in its ability to dispose of environmental controversies than existing courts.
4. There is no evidence of support for a separate environmental court among those to be most directly affected.[69]

Judge Oakes of Connecticut has also offered five reasons against instituting an environmental court.[70] These are:

1. Environmental cases involve too many other kinds of law. Judges who deal exclusively with environmental issues will be incapable of dealing adequately with the other issues involved.
2. It is vital to have different courts experimenting with different approaches to environmental issues since synthesis produces the best kind of law, especially in a relatively new area of the law.
3. An environmental court would sacrifice local access to the extent that it would become difficult for small plaintiffs to go to trial.
4. The appointment of judges would be the subject of intensive lobbying by special interest groups.
5. Generalist judges function better than specialized judges. Expert witnesses can provide all of the needed skills to interpret the facts of a given case.

Clearly, there are arguments both for and against an environmental court system. Professor Whitney leans heavily on the example of the United States Tax Court for support of the concept However, it should be pointed out that the type of issues handled by the Tax Court tend to be narrowly drawn and deal only with the construction of a statute which, while complicated, has a long history of application. Environmental cases and the present status of environmental expertise is somewhat different in that a multitude of disciplines are involved, and the relevant statutes themselves have yet to stabilize. When a more coherent legislative policy regarding the environment has settled out, then a specialized environmental court is likely to have more intuitive appeal along the lines argued by Professor Whitney. However, this is a process of evolution, and it will be some years before the environmental court system, if instituted, could become a viable means through which private individuals might more easily interact with public agencies through the legal process.

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[69] Ibid., at 50016 (paraphrased).

[70] James L. Oakes, Environmental Litigation: Current Developments and Suggestions for the Future, 5 Conn. L. Rev. (1973).

Common Law Remedies

The common law remedies, or actions, referred to here include actions for negligence, nuisance and trespass. The remedies for an injury which is proved under one of these forms of action can be either damages or, in the case of a nuisance or trespass, an injunction ordering the defendant to cease his action or to remove a source of annoyance.

The problem involved with these actions in the context at hand is the doctrine of sovereign immunity. In its most general form, this doctrine states that the sovereign (government) may not be held liable for its actions or the actions of its servants. The doctrine is not stated explicitly either in the Constitution or in statutory law, but it derives instead from old English law as interpreted by the courts of the United States. The strongest form of the doctrine provides that the sovereign may not be sued when the suit would compel the release of public monies to the plaintiff.

Inequities caused by this doctrine have resulted in congressional action to create exceptions, the most notable of which is the Federal Tort Claims Act.[71] However, in spite of this Act and unless an action specifically fits one of the categories covered by the Act, the doctrine will still apply. Sovereign immunity, therefore, could prevent a suit for damages or an injunction against an action where the government could show a compelling public interest. The purpose of public involvement in the context of this paper is to prevent an agency from carrying through a decision or forcing it to reconsider, and this is not easy. One problem which has been mentioned before is that the action may fall foul of the principle that the courts' powers of review are limited by statute. Then, there is no constitutional protection against a nuisance other than situations where it is held to be a taking of property without compensation. Court decisions have shown that, generally speaking, when a governmental activity causes a nuisance, a private individual has little or no recourse. For example, in an Arkansas case, plaintiffs sought to enjoin construction of a highway interchange near their property.[72] The injunction was refused on the argument that where the inconvenience was the same as that suffered by the public at large, there was no cause for action. Only when the activity is such that the land is rendered useless may it be reasoned that an implicit taking has occurred (inverse condemnation) and compensation will be forthcoming.[73]

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[71] 28 U.S.C. Sec. 1291 *et seq*.

A further problem is that although the common law theory of injury may be sufficient for standing and fall within the purview of the Administration Procedures Act, courts are notoriously unwilling to issue an injunction against an anticipated injury.[74] This will seriously limit the use of common law tort theories. Furthermore, if an individual is suing, it will be difficult to show that his particular interests override those of the public.

The desirable time for intervention is before an action is taken, with the desired effect being to force the agency to consider certain environmental values deemed important by the public. Common law remedies depend on the fact of injury to an individual. Thus, in order for these remedies to be of much use in this framework, it would be necessary to show injury in fact before the agency has taken action--something that would be very difficult to accomplish.

Constitutional Amendment

The Ninth Amendment to the United States Constitution guarantees to the people a healthy environment. Unfortunately, however, the provisions of this amendment appear to be too vague for the courts to be willing to find a guarantee of environmental rights. One court concluded:

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[72] Arkansas State Highway Commission v. McNeill, 238 Arl. 244, 381 S. W. 2d. 425 (1966).

[73] Griggs v. Allegheny County, 369 U. S. 84 (1965).

[74] Commerce Oil Refining Corporation v. Miner, 281 F. 2d 465 (1st Cir. 1960).

> The formers of the Fifth, Ninth and Fourteenth Amendments to our Constitution clearly have not guaranteed any right to the personal enjoyment of the environment Nature has provided us. . . . If the citizen's right to the personal enjoyment of our natural environment is to be inferred from the guarantees these Amendments do confer, that decision must come from a source other than this Court.[75]

Thus, without some declaration by the Supreme Court or some action by Congress, it is doubtful that the Ninth Amendment will serve as an effective vehicle for arguing the public interest.

There is, however, an argument for the addition of a Constitutional Amendment which would specifically guarantee the people the right to a quality environment and which would establish with some degree of finality a public policy for environmental protection and provide a framework for decisions on environmental questions where no statutes currently exist.

No legal arguments exist against an environmental amendment per se. Passage of such an amendment is more a political than a legal issue, and herein lies a problem. Either two-thirds of both houses of Congress or a Constitutional Convention called by two-thirds of the states is necessary to propose an amendment. In the light of the sizable opposition to most environmental legislation, the chances of passage of such an amendment are remote at best. Also, there is a problem of interpretation of the amendment by the courts. Such terms as "clean," "healthy," "pleasurable" would presumably be a part of an environmental amendment and judicial construction of the definition of such terms is hard to predict. There is a good possibility that interpretation of the amendment by the courts would emaciate the amendment to the extent that it became ineffective. The present controversies over implementation of the Clean Air Act[76] and the Water Pollution Control Act Amendments[77] in the light of an energy/pollution trade-off are suggestive of the lack of any coherent public policy with respect to the environment.

However, there is an inherent appeal to this option. The Constitution is essentially a scaffolding for our system of government. It is an exposition of principle rather than detailed law. Surely, the right to a clean and healthful environment is worthy of constitutional protection. Recognizing that such an amendment would involve years of judicial clarification with respect to the exact meaning of its provisions and recognizing that the eventual outcome would probably be a much diluted version of the initial intent, such a constitutional amendment would, nevertheless, represent a framing of the public interest with respect to the environment and would enhance the right of individuals to take an agency to court.

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[75] EDF v. TVA, 4 Envir. Rep. Cases 1872 (E. D. Tenn. 1972).

[76] 42 U.S.C. Sec. 1857 et seq.

[77] 33 U.S.C. Sec. 1251 et seq.

VII. Conclusions

Four alternatives have been discussed briefly in the preceding section. It is suggested that these options hold some potential for enhancing the means whereby individuals and groups may interact with public agencies to foster both increased responsiveness on the part of the agencies to a broader public interest and also more complete accountability for their actions. Still, the tone of the earlier part of this paper prevails. There is no quick and easy solution; there is no readily institutable legal remedy for ensuring greater public involvement in agency decision-making activities. In fact, the normative question remains as to whether increased involvement of the public is desirable recognizing the costs of such involvement and that much of this involvement is, and would continue to be, based on emotional considerations and either false or inadequate information.

The ultimate solution may well rest in the adoption of one or all of the remedies suggested. However, this is an evolutionary process and will result inevitably in some form of a compromise which will be legally workable and politically palatable. An example of movement in this direction is Section 505 of the Water Pollution Control Act Amendments which specifically provides for citizen suits against the Administrator of EPA to force him to act against sources of pollution. Thus, one form of public intervention in agency decisions has already been provided.

In the shorter run, what suggestions may be made? The standing provisions of the Administrative Procedures Act could be amended to provide that public groups such as the Sierra Club be allowed to sue on a theory of violation of the public trust. This would provide a method to force some consideration of public values, but it might open public agencies to a flood of harassment. Any such amendment, therefore, should include provisions for limited venue, broad joinder provisions, a short time limitation in which to file, and wide discretionary powers to the trial judge to dismiss frivolous suits. Justice Douglas in Sierra Club v. Morton[78] suggested that rocks and trees should have standing so that living parties could urge their interests. While this view seems somewhat extreme, it would still appear that the public trust doctrine espoused by Joseph Sax[79] is a factor which should enter the agency decision processes. As discussed previously, the public trust doctrine states that certain lands and properties are held by the government in trust for the public and are free for the public to use. Any derogation of the public's rights in these lands must be on the basis of a greater public benefit and not for the enrichment of private interests. This doctrine would seem to be applicable to water resource problems. In fact, the Water Resources Council's new project evaluation procedures[80] indicate a positive attempt to incorporate inclusion of a wider range of values into agency decision-making processes.

There may also be another mechanism by means of which the judicial area may foster enhanced public involvement. This would be a legislatively established system appointing special masters to hear environmental cases. The master then would report his findings and recommendations to the court which would make the final decision. It is notable that this system is used with success in one of the most involved and time-consuming litigatory processes; namely, bankruptcy. The bulk of the evidence and facts would be heard and compiled by the special master, thereby freeing the court for other tasks. The desired qualifications of the master could be written in as part of the statute establishing the system. If the joint expertise of more than one master or a committee system approach seemed desirable, the enabling legislation could be structured to this end. This general approach would be a quasi-environmental court and would foster development of expertise in the area of environmental litigation and ultimately provide for improved and more responsive agency decision-making.

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[78] Sierra Club v. Morton, 405 U. S. 727 (1972).

[79] J. L. Sax, The Public Trust Doctrine in Natural Resources Law, 68 Mich. L. Rev. 473.

[80] Water Resources Council, Water and Related Land Resources: Establishment of Principles and Standards for Planning, Federal Register, Sept. 10, 1973.

EDUCATION OF PLANNERS AND MANAGERS FOR EFFECTIVE PUBLIC PARTICIPATION

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Introduction

The water resources development interests, whether government development agencies or industry, have for years been quite well organized and well financed. There has, indeed, been no sufficient advocate for the public at large and the quality of the environment, those related to water resources as well as other facets of the environment. Of course, the environment has not been too important in the minds of most until lately because jobs, production, and investment were of paramount interest and concern. Such results are easy to present to the public, and this was what was desired. Agencies at all levels of government as well as industries are for the most part, rather mission-oriented. If their mandate was to increase the number of non-agricultural jobs or to increase the level of industrial capitalization or generate power or whatnot, then that is what they would be expected to do and to do as effectively and as efficiently as possible.

The public will ultimately bear the cost of an overdeveloped or a degraded environment as surely as they will bear the cost of an exceptionally pure or natural one without development and jobs. There are significant costs and benefits associated with both extremes. One must look at the total social costs and benefits of alternatives, not just the obvious ones, but the full scale of water resources development alternatives from one end to the other. There is more to consider than just the number of jobs, the investment, and the positive effects on taxes. Other factors have come to light with a little analysis in recent events that would have affected decisions had they been available. After a little thought, it usually appears that the best course lies somewhere between a very pure or natural environment that is made possible by little water resources development and a totally degraded environment where little is spent on protection and management of natural areas but a high level of industrial employment is obtained.

The search for the best portion of this middle ground is very complex and requires the best efforts of us all. Too seldom is a broad array of alternative courses of water resources development advanced for meaningful, open, and objective consideration. Somewhere in the smoke and dust, the overall, long-run public interest is too often lost sight of. The resulting loss accrues not to a specific industry or a government agency or a particular community or a citizens' group, it accrues to the general public. Frequently of late, when citizens have become involved, there have been conflicts and confrontations between the prodevelopment interests and the proenvironment interests. It is an exercise in futility to attempt to place the white hat of virtue and omnipotence on one's own head while at the same time denouncing all who do not agree with you. Reasonable persons of all persuasions are seeking a middle ground that is acceptable to all or most, not a compromise which means any major segment loses out completely.

The general lack of understanding and tolerance among interest groups has been a rather serious problem in the past. It appears that neither of the two sides, if one can oversimplify the situation to only two sides, fully appreciates the other's objectives and position. Actually, there are not just two clearly defined camps--i.e., the developers (industry and development agencies) and the public(s). There are many of diverse interests and persuasions. All must be willing to listen to and to respect the views of all others and then to work out the differences for the overall good. When one gets down to the basics, how far apart are these groups with regard to their real goals? In some cases, the difference is not nearly as great as imagined. It must be assumed that all sides want what is best for the public. They simply perceive things differently. In most cases, they are looking at different aspects of an issue or a portion of a larger system instead of viewing it as a whole.

The goals of our society are constantly changing over time; this certainly applies now to the South Atlantic-Gulf-Tennessee region. As a nation, a region, or a state matures economically and improves its material lot, it can afford to desire a different blend of services and activities. What the public wanted, and what was thought to be good for them, twenty, ten, or even five years ago might not be relevant today. The mechanisms for determining and implementing policies that are in the overall best interest of the public must change and be responsive.

When the development interests could ignore or easily squelch any opposition and proceed on schedule with its activities and mission, the public and the environmentalists were sometimes listened to and sometimes not. This was not really necessary for the outcome to be determined. But now, due to the increased public awareness and education, citizens' groups and the public in general are becoming much more articulate and effective. The public in the South Atlantic-Gulf-Tennessee region has spoken in the last few years on water resources and environmental matters, and a large segment wants a reordering of priorities to give more weight to natural values and environmental quality. Many are willing to accept the consequences.

In several recent highly publicized instances from across the nation, citizens have flexed their collective muscles and have stopped, delayed, or tied up some very large projects proposed by traditional water resources development interests. This trend is on the upswing for activities that are deemed by much of the public not to be in the long-run best interest of an area or the nation. The public has realized quite well the strength it now wields. This power can be abused, just as the growth and development philosophy which gave rise to environmental problems was overdone.

Perceptive development agencies, industry, and other similar interests must now take cognizance of environmental aspects of proposed water resources developments. No longer are citizens' groups and members of the public merely a nuisance or an irritant. They know they can stop or delay a project with a combination of information and emotion. But citizens have not, by any stretch of the imagination, had a corner on emotionalism and propoganda. It has, in the past, been freely used by both sides in the absence of concrete fact. It is both unfortunate and unnecessary that the considerable talents of the citizens' groups and development-oriented agencies and industries have been so often dissipated in conflicts over which extreme shall be implemented.

When legitimate concern for environmental effects of water resources projects is evidenced by industries or development agencies, the way seems to be much smoother. Developments can more likely proceed on schedule with the results being sound, planned economic development which provides important income-producing jobs as well as a satisfactory environment. Instead of costly delays of unknown duration or even an abrupt termination of a project, the development may proceed in an orderly manner. An additional plus for this approach is increased public acceptance of the development and continuing confidence in the industry or agency on the part of the citizens.

Relevance of this Research

The competition for funds is great today in the social investment area. The public, more aroused and desiring to be involved than in the past, is demanding that new values and preferences be considered as compared with those of previous eras. They require that they be made an integral part of the decision-making process. Public participation can and should be a very positive, constructive, healthy process if done properly. It need not be a forum for dissent and an arena for conflict.

The matter of meaningful public involvement is a new proposition for most water resources agencies. This is particularly applicable, perhaps, for many key decision makers with planning and management responsibilities who have, in all likelihood, a more or less traditional technical background and orientation. Many such agency personnel feel that they are now doing an adequate job of providing for public participation despite problems which persist. They frequently indicate an attitude that such problems "just go along with letting the public get in on such matters."

Too often, engineering and economic feasibility are considered in depth, and factors concerned with the "quality of life," aesthetics, amenities, environment-related factors, etc. are given only a superficial consideration. Also, the agencies seemingly confuse going through the legal motions of holding public hearings and inundating the public with "information" with meaningful public participation.

Another problem is that too often governmental agencies are unable to reflect or articulate certain natural resources views due to political pressures and are forced to go along with certain developments. Agencies, industries, and other interests concerned primarily with "development" frequently have the leading roles within the states. Normally, agencies are not really involved in the process of sifting through alternatives but are relegated to simply reacting to proposed developments which surface and are brought to their attention for review. It is felt that key planning and management personnel in the private sector must be included along with the public sector since such a great proportion of the water resources development proposals originate there.

The key planning and management personnel in both government and industry could profit from efforts devoted to upgrading their awareness and abilities in the public participation area. They need to be acquainted with not only the neatly documented techniques and tools but some of the real applied factors and issues that can spell success or failure for a public participation program. Many of the more important factors are very subtle and seem to be absent from all too many citizen involvement efforts, regardless of how hard an agency or an industry tries to do a good job.

Perhaps it would be safe to speculate that a majority of key persons with water resources planning and management responsibilities in governmental agencies and the private sector are engineers. If this is the case, it could partially account for the traditional and frequently abortive "frontal assault" approach to public participation.

All too frequently the typical public participation program seems to involve agency and development technical personnel armed to the teeth with facts, figures, thick reports that say too little or nothing about some of the real issues of interest to the enlarged and concerned public, etc. plus sometimes "public relations" people. The combination of technically competent individuals who usually believe in the nobility of the project providing sterile facts and overzealous promotional people who may utilize the "hard sell" on the one hand and a diverse array of publics, sometimes confused and frequently ill-informed, on the other hand can create a very fertile setting for misunderstanding and conflict.

Missing from the typical public participation effort are ingredients such as sensitivity and perceptiveness. These factors, plus early and continuing meaningful involvement of citizens and an attitude of genuine responsiveness on the part of the agency or industry, can mean the difference between a program which produces even greater polarization and one which produces a better water resources project. Efforts, such as those reported herein, addressed to increasing the probability of effective and meaningful public participation seem to be extremely relevant to improved water resources planning and management.

Objectives of this Research

The goal of water resources development should be that of providing measures and facilities which are responsive to the legitimate, long-run needs and desires of the public. An extremely important means of achieving this goal is meaningful and effective public participation in water resources planning and management. This cannot be accomplished unless key planning and management personnel are sufficiently familiar with both the obvious and the subtle dimensions of public participation.

This research was addressed to the subject of "education of water resources planners and managers" to enhance their capabilities to conceive and implement public participation programs. The research was oriented specifically to the South Atlantic-Gulf-Tennessee region. Briefly stated, the objectives of the research were as follows:

a. To identify the key planners and managers in the region with major responsibilities for water resources development,

b. To determine the extent, orientation, depth, breadth, and currency of these individuals' formal and informal education, training, and experience in water resources planning and management in general and especially as it relates to public participation,

c. To determine what such individuals should know in order to function effectively now and in the near future considering current and evolving conditions regarding public preferences and social goals,

d. To determine if there are any factors peculiar or specific to the region and the type of water resources development taking place or anticipated here which should, therefore, receive special attention,

e. To compare the capabilities indicated in (b) and the needs indicated in (c) and (d) for different categories of water resources planners identified in (a) in order to highlight priority groups and educational areas required to enhance public participation in the region, and

f. To prepare a review of prior efforts and techniques and approaches utilized to educate key water resources planning and management personnel and to recommend a program of action addressed to deficiencies or priority groups identified in (e).

Through such an effort such as described above, more effective and meaningful public participation programs could result in the region. The goals and purposes of water resources development should be more nearly attained and with a greater degree of cooperation and understanding between water resources professionals and the public they are responsible to.

Procedure for this Research

The objectives previously outlined above represented a rather ambitious undertaking, especially considering the time and financial constraints imposed in "Phase I" of this overall regional research program; i.e., six months' duration and a total budget under $10,000. An attempt was made to progress through all six of the objectives to the depth that was possible in order to determine the merit of a more penetrating effort in this area. The procedure utilized for the six objectives is as follows:

a. Identification of key planners and managers - Utilizing the investigator's established and existing contacts in government agencies (state and federal), industry, the academic community, citizens' groups in the states of the region, key professionals having water resources planning and management responsibilities were identified. Considered were individuals in both the public and private sectors with emphasis, however, on the public sector or governmental agencies. Contacts were pursued until a fairly complete list had been obtained for each of the eight states.

b. Determination of training, orientation, and capabilities of key planners and managers - It was possible to obtain sufficient information to prepare a rough profile by a questionnaire mailed to persons identified in (a). In some cases, however, this was supplemented by visits and phone calls to individuals. In any event, emphasis was placed on factors in the individuals' education, training, and experience which were thought to have a bearing on his abilities or attitudes toward public participation in water resources planning and management. An attempt was made to break the key professionals into groups or categories based on affiliation and academic discipline or background.

c. Determination of knowledge required by key planners and managers - Knowledge and insights required for key professionals to effectively participate in public involvement programs was compiled from various sources as time permitted. Included were various reports, case studies, and articles reported in the literature as well as information provided by water resources planners and managers who are considered to have been successful and effective in public participation efforts. The investigator has been actively involved in working with top and middle industrial management as well as government agency personnel in devising and implementing public participation programs. Such experience provided useful contacts and points of departure for determining knowledge and attributes related to successful efforts. Considering the constraints mentioned previously, it is felt that this objective was accomplished to a rather meaningful degree.

d. Determination of factors specific to the region - It was impossible to state at the start of the project whether any such factors would emerge. Considering, however, that there are several types of water resources-related development proceeding in most states of the South Atlantic-Gulf-Tennessee region, it was thought to be quite possible that they could exist. Examples considered included the following: (1) extensive channelization of streams throughout the region, (2) nuclear power generating facilities and resulting water resources problems such as "thermal pollution" (about 1/3 of the installed, under construction, or announced nuclear capacity for the entire nation is in EPA Region IV with much more not yet announced), (3) rapidly increasing development in the region along the coast and on reservoirs and lakes of recreation and housing developments, (4) extensive development in general along the coast in the region, and (5) rapid growth of industry in the Southeast. These matters certainly warrant some attention being paid to any peculiar factors which could be specific to the region. Several or most of these are known to be extremely volatile subjects so far as the public is concerned. Therefore, it was felt that water resources planners and managers might need to be provided with special knowledge and insights to improve effectiveness in public participation efforts related to such matters.

e. Comparison of capabilities and needs - The capability, experience, insight, and knowledge profiles developed in (b) were compared with the needs or desirable attributes profile developed in (c) and (d) to identify any clear deficiencies which may be present. This process was subjective admittedly, but it was hoped that important shortcomings needing attention might emerge from the process. An attempt was made to determine if deficiencies are common to water resources planners and managers in the region in general or seemingly characteristic of smaller groups or subgroups. Such groups might consist of, for example, individuals in construction-oriented agencies with predominantly civil engineering backgrounds, individuals in mainly planning and coordinating-oriented agencies with non-engineering backgrounds, etc.

f. Preparation of state-of-the-art review and recommendations for educational program - The state-of-the-art review was to be drawn from relevant literature and published reports as well as knowledge obtained from individuals relative to other cases and situations in the region and around the nation. Based upon this review of approaches which appeared to be successful and less than successful in promoting more effective public participation for the major types of water resources development, recommendations were made as to the types of information and knowledge needed and techniques to be utilized. The state-of-the-art review is relatively straightforward.

Results of this Research

The results will be presented in summary form by subsections corresponding to those used in the "Objectives" section. A much more detailed report of the results and findings of this project will be prepared based upon the discussion, recommendations, and feedback obtained from other faculty investigators and conference participants.

a. Identification of key planners and managers

A list of 77 individuals, about ten per state in the South Atlantic-Gulf-Tennessee region, was prepared utilizing the investigator's established and existing contacts in state and federal government agencies, industry and business, the academic community, and citizens' groups. Various listings and directories were used to supplement the list to fill in gaps. These individuals were selected as being within the mainstream of water resources activity, as full-time professionals or otherwise, in their states or throughout the region.

These 77 individuals were asked for assistance in identifying those individuals which they considered major or "key" persons in the overall water resources planning and management process. This was to include the whole spectrum of persons known to them personally or through indirect contacts. Included, as requested, were to be persons in government agencies, industry and business, the academic community, and citizens' groups. Of the 77 initial requests sent out, a total of 54 responses were received. This was a return of 70 percent which was thought to be quite good. Please refer to Appendix A for an example of the cover letter and forms used in this initial mailing. The number of letters, responses, and percentages by states is presented in Table 1.

Table 1. Letters Sent and Responses for Initial Mailing to Identify Key Individuals

State	Letters Sent	Letters Returned	Percent
Alabama	8	6	75
Florida	7	5	71
Georgia	10	8	80
Mississippi	11	6	54
North Carolina	10	7	70
South Carolina	14	11	79
Tennessee	10	5	50
Virginia	7	6	86
TOTALS	77	54	70

Approximately 300 individuals were identified through this process. All names submitted were reviewed, classified as to affiliation, and tabulated as to the number of times a particular individual was cited. Oftentimes a person was named as many as five or six times on different responses. These individuals certainly qualified as "key" individuals. Some respondents tended to list all federal and state people while some listed only key personnel in their own office or agency. Several persons called the investigator to ascertain the exact nature of the type of response desired to be as helpful as possible while others probably devoted a minimal level of effort to their responses.

In the review of the better than 300 persons named in the region, it was noted that a majority were affiliated with either federal or state government agencies, primarily the more historically "development-oriented" agencies such as the U. S. Army Corps of Engineers and the Soil Conservation Service as well as a leading state water resources, natural resources, or pollution control agency. Surprisingly, few individuals from the private sector (industry and business), elected officials, or citizens' groups were identified as "key" persons in the overall water resources planning and management process.

In fact, in a few states, not a single individual from these latter categories was listed. It should be noted that those to be listed as "key" individuals did not have to be full-time water resources professionals or did not necessarily have to possess any special qualifications or background. Apparently, the great bulk of the respondents felt that "agency" personnel were the decision-makers in water resources planning and management. This was the case in spite of seemingly obvious impacts on the process by industry (e.g., the decision to impound a river) and citizens' groups (e.g., the ability to stop, delay, or significantly alter a variety of major and minor water resources projects).

The second step in this phase was to screen the more than 300 names suggested to obtain a subset that, hopefully, would consist of a representative group of water resources decision-makers from the region. Desired was good geographical coverage as well as types of affiliations; e.g., federal agency, industry, etc.

Duplication of persons within the same agency office with seemingly similar responsibilities was eliminated, and individuals with seemingly marginal or unclear connection with water resources were deleted.

A total of 171 persons were selected from the screening process, averaging 21 per state. It was desired to have a mix of individuals as shown in Table 2 to provide good coverage of those felt to be involved in the water resources planning and management process.

Table 2. Desired Mix of Individuals Per State to Receive Second Questionnaire

Category	Number	Percent
Federal agencies	6	30
State agencies	6	30
Industry & Business	4	20
Academic	2	10
Citizens' groups	2	10
TOTAL	20	100

As stated previously, due to the lack of identified "key" persons within some states in certain classifications or affiliations, the ratios presented in Table 2 are only approximate. They do, however, apply on a regional basis. The actual number of individuals who were sent the second questionnaire to be discussed subsequently, as well as the number responding, is presented in Table 3.

The third effort in this subsection was to devise a questionnaire aimed at evaluating several characteristics and attitudes of these "key" individuals involved with water resources planning and management. Please refer to the two-page questionnaire and cover letter attached as Appendix B.

Specifically, the objectives of the questionnaire were to evaluate the individuals' formal education, training, experience, and their

Table 3. Questionnaires Sent and Responses for Second Mailing Concerning Attributes and Attitudes

State	Questionnaires Sent	Questionnaires Returned	Percent
Alabama	18	15	83
Florida	18	10	56
Georgia	22	15	68
Mississippi	15	15	100
North Carolina	33	24	73
South Carolina	30	25	83
Tennessee	18	11	61
Virginia	16	11	69
TOTALS	170	126	74

attitudes toward public participation in water resources planning and management. Questions 1-6 deal with categorizing the individual and determining a professional profile. Questions 7-13 attempt to determine the individuals' exposure, involvement, and attitude specifically toward public participation.

Of particular interest, perhaps, are questions 11-13. Question 11 asks how the individual personally views public participation and was designed to accommodate responses ranging from totally negative ("a waste of time/distraction") to a very positive ("a helpful, beneficial, and valuable tool"). Question 12 asks how the individual views public participation as it applies primarily to their personal affiliation with water resources, in whatever capacity they are involved. Of the ten items which could be checked, three are negative and seven are positive.

Question 13 deals with the factors which educated or acquainted the individuals to the subject and use of public participation. Responses were provided of a more or less "passive" nature such as organizational policy directives and incidental lectures to more active, voluntary pursuing of information and the acquiring of skills pertaining to public participation.

Questions 14-16 specifically seek the individuals' opinion as to a need for a public participation training program of some sort and his desire to participate in such a program.

Considerable thought went into the construction of the questionnaire to minimize any bias in asking the questions and to promote considered, accurate responses. There is certainly a limit as to the amount of information which can be gathered by a mail questionnaire, and an attempt was made to maximize the value obtained from the responses to the questions included. It was felt that a two-page questionnaire (one-page front and back) was about all that could be used to prevent a large drop-off in the percentage response. As noted in Table 3, a return rate of 74 percent was obtained. This was considered to be highly satisfactory.

b. Determination of training, orientation, and capabilities of key planners and managers

At best, it is difficult to assess such matters. Some items are readily describable in quantitative or qualitative terms while others are purely subjective and certainly subject to argument.

The Statistical Analysis System (SAS), a digital computer software package, was used to analyze the responses to the questionnaire shown in Appendix B. A variety of analyses was performed on the 126 questionnaires received as of June 7, 1974, of the 170 initially sent out (74 percent return).

Initially, the responses were classified and analyzed in 30 separate groups according to the individuals' responses to questions 1 and 4 Refer to the questionnaire in Appendix B. Responses to the former question indicated affiliation; i.e., academic, citizens' group, industry and business, federal agency, state agency, or other government. Responses to the latter question indicated background which was based principally on the individual's bachelor's degree; i.e., civil engineering, other engineering, relevant non-engineering (e g., law, biology, geology, planning, etc.), apparently non-related to water resources (e.g., personnel administration, sociology, etc.), and no degree.

After several preliminary computer runs, it was determined that insufficient observations existed in the "citizens' group," the "other government group," the "non-related to engineering group," and the "no degree group" to draw meaningful conclusions from the statistical analysis. Please refer to Table 4 which indicates the number of responses in the initial 30 categories or cells, six affiliations by five backgrounds.

To collapse the 5 x 6 matrix for more meaningful statistical analysis, the "academic" and "citizens' groups" were combined. The best reason that can be cited other than necessity is that both groups are typically more "disinterested" or "detached" from the water resources project than are "industry and business" and the "federal agency" and "state agency" categories. The "other government" category with a single response was combined with "state agency." The "civil engineer" and "other engineer" categories were combined into a single "engineer" category. Finally, the "relevant non-engineer," "non-related," and "none" categories were combined simply to "non-engineers." The resulting number of responses corresponding to the revised categories are presented in Table 5.

All responses on the survey were used as data elements. Data elements relating to a particular question on the survey were provided variable names as indicated in Appendix C. The method used to enter the data elements on the computer data cards is self-explanatory from information in Appendix C for most questions; however, data elements for a few of the questions require some further explanation. Responses to questions 4 and 5 regarding undergraduate and/or graduate degrees and major fields were used to determine whether or not the individual had an engineering background. In addition, responses to question 12 were used to determine a public participation score from 0 to 10 for each individual. The question contains seven potential positive responses and three potential negative responses. Using a base score of three, one point was added to three for each positive response checked and one point was subtracted for each negative response checked.

Table 4. Responses by Original Thirty Categories

	Academic	Citizens' Groups	Industry & Business	Federal Agency	State Agency	Other Gov't	Totals
Civil engineer	7	0	9	16	13	0	45
Other engineer	1	1	3	7	2	0	14
Relevant non-engineer	12	0	4	16	24	1	57
Unrelated	1	1	1	1	3	0	7
None	0	2	0	0	1	0	3
TOTALS	21	4	17	40	43	1	126

Table 5. Responses by Final Collapsed Eight Categories

	Academic & Citizens' Groups	Industry & Business	Federal Agency	State Agency & Other Gov't	Totals
Engineer	9	12	23	15	59
Non-engineer	16	5	17	29	67
TOTALS	25	17	40	44	126

The data elements were sorted by the eight groups for each question to determine the overall means for the total observations and the mean response for each group to each question. A complete compilation of these results is available from the investigator. Discussion and interpretation of significant results will be provided subsequently.

An analysis of variance (ANOVA) test was conducted for each question in order to determine which questions provided significant (alpha value of 0.05) or highly significant (alpha value of 0.01) differences in responses by the eight groups in relation to their scores (0-10) obtained from question 12. In other words, whether or not the manner in which individuals as a group responded to a specific question had a significant (or highly significant) influence on the group's public participation score (0-10) was indicated by the ANOVA test. Questions having a significant and highly significant relation to the public participation score are indicated in Table 6. In addition, a compilation of responses by group to significant and highly significant questions is found in Table 8. Refer to Appendix C for explanation of variable names.

Table 6. Significant and Highly Significant Questions as Related to a Group's "Public Participation Score"

Highly Significant (alpha value of 0.01)	Significant (alpha value of 0.05)
Question No.	Question No.
4 (years since bachelor's degree)	4 or 5 (years since last degree)
5 (years since master's degree)	6 (minor fields)
7 (organization involved in pub. par.)	13 (where learn about pub. par.
8 (organization has a pub. par. policy/program)	15 (training program useful)
9 (position involve pub. par.)	
11 (personal view of pub. par.)	
14 (in-house pub. par. training useful)	

Table 7. Responses by Group to Significant and Highly Significant Questions as Related to a Group's "Public Participation Score"

Name	Highly Significant Responses								Significant Responses			
Question No.	SCORE (12)	YSBD (4)	YSMD (5)	OIPPN (7)	OPN (8a)	PPIWR (9)	PVPP (11)	IPPB (14)	YSLD (4)	MS (6)	LPP (13)	RDPB (15)
Industry/business engineers	4.83	17.2	6.0	83.3	50.0	41.7	3.83	25.0	16.4	16.7	2.2	25.0
Academic non-engineers	5.69	21.1	16.6	87.5	68.8	37.5	4.06	31.2	14.6	6.2	2.8	25.0
State agency engineers	5.73	24.4	15.8	100.0	73.3	60.0	4.07	26.7	19.4	26.7	3.2	33.3
State agency non-engineers	6.10	23.0	15.1	93.1	71.4	55.1	3.90	31.0	18.4	0	2.5	24.1
Federal agency engineers	6.70	24.1	13.0	95.7	86.9	65.3	4.47	34.8	19.1	8.7	3.8	21.8
Federal agency non-engineers	6.70	20.1	12.4	94.1	82.4	41.2	4.18	29.4	18.6	0	3.1	41.2
Academic engineers	6.89	22.9	17.0	100.0	44.4	33.3	4.78	66.7	13.3	22.2	3.0	55.6
Industry/business non-engineers	7.60	28.2	16.7	100.0	60.0	20.0	4.40	20.0	23.2	20.0	3.2	20.0
Overall Average	6.20	22.4	14.6	93.7	71.4	49.2	4.17	34.1	17.8	8.7	3.0	29.4

In order to determine which groups' responses were significantly different from other groups' responses, a multiple range test was conducted for each of the significant and highly significant questions. Least Significant Differences (LSD) were computed from the data contained in the compilation (cited previously as being available from the investigator), and the difference between the groups' mean responses were compared against the LSD.

The following conclusions may be made from the statistical analysis procedure previously described. Refer to Table 8. Key individuals working for industry or business with an engineering background demonstrate a significantly poorer attitude towards public participation in the water resources planning and management area than individuals working in industry or business with a non-engineering background in an area other than engineering. This conclusion is a result of analysis of responses to question 11 regarding personal view of public participation and question 12 regarding the positive and negative benefits of public participation. In addition, individuals working for industry or business with an engineering background are significantly younger than all the other groups as indicated by response to questions 4 and 5 which indicate years since they received the bachelor's degree and years since they received the master's degree.

There is also significantly less time since receiving the last formal degree between engineers in industry and business and all other groups with the exception of individuals affiliated with the academic community. Individuals affiliated with an academic institution generally indicated having obtained a Ph.D., whereas the other individuals generally had not. Engineers in industry or business are working for organizations which are less involved with any aspect of public participation and have fewer active, organized public participation policies or programs; and as such, it appears that these individuals' present position as related to water resources involves them significantly less in any aspect of public participation. These conclusions are drawn from responses to questions 7, 8a, and 9. Non-engineers in industry and business had less or took advantage of fewer opportunities to develop their techniques or skills relative to public participation as indicated by responses to question 13. According to question 14, all individuals affiliated with industry or business, both engineers and non-engineers, tended to believe that an in-house public participation training program would not be as beneficial as the other groups believe.

In summary, it can be statistically concluded that the individuals affiliated with industry or business with an engineering background believe that public participation is less beneficial, are younger (therefore, having less experience), have had or have taken fewer opportunities to learn about public participation, and are employed by organizations which are less involved in any aspect of public participation and as such have fewer active, organized public participation policies or programs than the other groups.

Those in industry or business with a non-engineering background have a significantly better attitude towards public participation in the water resources area; they are older with more experience, have had or have taken advantage of more opportunities to learn about public participation, and the organizations with which they are employed are more involved with public participation and have more active public participation policies or programs. However, these individuals are significantly less involved in any aspect of public participation in their present position and feel that an in-house public participation training program would be significantly less beneficial than do the other groups with the exception of engineers in industry or business.

Although federal employees' attitudes were higher than state employees' attitudes, there was no significant difference in their attitudes. In the attitudes of other groups, state employees were significantly older with more experience than federal employees; however, no significant differences occurred in their responses to other questions.

No formal conclusions were drawn regarding individuals affiliated with academic institutions other than using these two groups, academic engineers and academic non-engineers, for comparison with other groups.

Although little statistical difference exists between the groups' responses to the questions regarding attitude toward public participation in the water resources planning and management area, some difference does exist in both the score computed from question 12 and the personal view expressed in question 11. By referring to Figure 8, it can be noted that the same groups, i.e., the industry and business engineers, academic non-engineers, state agency engineers, and state agency non-engineers, rank consistently low in response to both questions. In each case lower than the overall mean. These same groups believe than an in-house training program would not be as beneficial as the other four groups, and they rank significantly lower than the overall mean of 34.1 percent. In addition, each of these four groups with the exception of state agency engineers have had fewer learning experiences regarding public participation. Based on these observations, it could be concluded that an education program in public participation would not only benefit the industry and business engineer group, a conclusion supported by the statistical analysis, but such a program might also benefit individuals affiliated with the other three low-ranked groups; i.e., state agency engineers and non-engineers as well as academic non-engineers.

The only statistical difference found by the analysis of the survey responses regarding attitude toward public participation was between the industry and business engineer, the lowest ranked group, and the industry and business non-engineer, the highest ranked group. In order to determine if significant differences exist in the other groups regarding attitudes toward public participation, the survey questionnaire could have been designed to provide more differentiation between different responses.

One method of accomplishing this is to assign various weights to different responses when designing the questionnaire. For example, referring to question 12 (see Appendix B), certain responses could be considered to be much more positive than others and, therefore, should be worth more than one point in the totaled score. As an illustration, although "improve your organization's public image" and "make your projects more responsive to public needs" are both positive answers, the latter might be considered more positive than the former and should, therefore, be worth more points. An analysis based on such weighted responses might show more significant difference in the attitudes of the various groups. In addition, by comparing the groups' responses to question 12 with the groups' responses to question 10, assuming comparative weights were assigned similarly to question 10, a check could be made to determine if a significant difference exists between what a group believes it understands about public participation (question 10) and what the group has demonstrated it understands about public participation (question 12). Thus, it is recommended that future surveys be designed with the idea of a weighted analysis.

As a result of a visual inspection of the 126 responses, it was noted that "engineers" indicated predominantly engineering or rather closely related technical subsequent degree or minor areas. Of those twenty engineers who switched from their initial disciplines, only five changed to non-engineering disciplines; and two of these five were not clear switches. Overall, of the thirty subsequent degree disciplines or minor area interests after the bachelor's degree, only six were clear efforts to broaden themselves from an engineering or related technical background. As contrasted with this, "non-engineers" switched to engineering or related technical areas for their graduate majors in 12 of 32 instances. A preliminary conclusion might be that "non-engineers" are more prone to seek to broaden themselves than are "engineers." This could have some bearing on their effectiveness in coping with the ever more complex matter of dealing with water resources planning and management. Whether or not it is manifested in improved skills relative to public participation cannot be clearly delineated.

c. Determination of knowledge required by key planners and managers

This subsection can be addressed in rather short order. Obviously, those engaged in decision making relative to water resources planning and management need to be technically proficient and should possess up-to-date technical skills. This applies to engineers and non-engineers and individuals affiliated with industry, government agencies, citizens' groups, etc. In addition, they should be sensitive to the ideas and concepts of others including persons in other technical disciplines as well as those with seemingly totally unrelated backgrounds.

The matters of evaluating the capacity for sensitivity and the willingness to work effectively on multidisciplinary tasks are difficult to identify or quantify but seem to be cited frequently as necessary or even mandatory traits for those who are to direct or cause to be initiated effective and meaningful public participation programs.

It would be highly desirable to delve more deeply into matters raised in this subsection. However, a rather clear picture emerged from individuals who have had success in meaningful public participation efforts. Additional efforts could firm up the nature of and extent of non-technical characteristics such as "sensitivity" needed in public participation programs that seek to involve both the agency and industry technical and professional personnel as well as the public(s) in a meaningful and mutually satisfactory manner.

d. *Determination of factors specific to the region*

It is still thought that additional region-specific insights would be useful to key water resources planners and managers in dealing with problems peculiar to the region. Other matters, however, seem to require attention before this. An otherwise effective and perceptive decision-maker should be aware of or made aware of these region-specific problems. It was not feasible to delve into this specific subsection to any degree considering time constraints, though the topic could well warrant additional investigation.

e. *Comparison of capabilities and needs*

Based on various contacts and discussions prior to and during the course of this research, it appears that "technical" knowledge of key water resources planners and managers is quite adequate or at least presents no particular problems. No particular indications to the contrary were noted or cited. There were, however, frequent mentions of inadequacies in the areas of communication skills, willingness to accept or consider the ideas or inputs of "non-professionals," "sensitivity" to changing goals of society and the preferences manifested as a result, and "attitudinal" matters in general. It would appear that areas such as improving attitudes toward public participation and increasing sensitivity are the primary areas requiring attention.

While not specifically borne out by the statistical analysis of the questionnaires, this appears to be the feeling which emerges from numerous contacts. Project personnel felt that it was highly unlikely that too many individuals would indicate a clearly negative attitude toward public participation due to the numerous guidelines and directives which require it.

There was considerable feeling, however, that many respondents may feel rather favorably inclined toward the type of public participation practiced by their agency or industry but might well object to more open and meaningful approaches that tended to involve citizens more fully in the entire water resources planning and management process from the initial delineation of alternatives to the final selection of a project. Exceptions to this have appeared in the literature and in personal contacts, but the feeling is that these are exceptions rather than the rule.

It was impossible to ascertain attitudes toward different depths, degrees, and qualities of public participation. The responses reflect the perceptions of the individual as to what does or should constitute public participation. While he might not object at all to holding required public meetings after alternatives have been internally developed, screened, and evaluated in detail, he might be unfavorably inclined toward a greater degree of involvement. Since most public participation to date has consisted of public meetings and public hearings that, perhaps, infrequently drastically alter the fate or course of a project, maybe there is a feeling that little or no threat is attached to public participation. It would be interesting to ascertain just what the various key water resources planners and managers who responded considered "public participation" to consist of.

f. Preparation of state-of-the-art review and recommendations for educational program

This subsection took two tacks. The first was to determine what was the nature of federal agency activities relative to public participation, particularly how they prepared their personnel to engage in it. The second was a brief survey of educational approaches and formats useful for training or educating management and decision-making personnel such as were of concern in this investigation. First, a review of current activities in three major and representative agencies will be presented.

In recent months, a telephone survey was conducted to determine what types of organizational programs have been conducted in the field of public participation for water resources planning and management personnel. Three main government agencies were questioned ranging from topic and role to format and who it was designed for. The three government agencies were the U. S. Army Corps of Engineers, the U. S. Environmental Protection Agency, and the Soil Conservation Service.

The Corps of Engineers in association with its Institute for Water Resources has prepared a multimedia course for "Public Participation in Water Resources Planning" to be distributed throughout the Corps' 37 districts. It is interesting to note that only 10 districts actually conducted the course The course was used to show how members of the Corps should properly use public participation in their efforts. A series of role playing, discussions, and tapes of guest lectures and case studies were used in the course. As pointed out by members of the Corps which have taken this course, the role playing seemed to be too long and overdrawn. The persons playing the parts were thought to be too ridiculous and not true characterizations. This point and one that strong leaders were needed were the major weak points that were discovered about this course.

The two districts of the Corps that were contacted were the Savannah District and the Charleston District. Other means of using skills of public participation were used in writing permits. Guides on public participation have been distributed among the district offices by other district offices.

The Savannah District is presently involved with a citizens' task force in the seven-county Atlanta area. This task force was organized to study water resources and water quality problems. The task force acts as a sounding board between the public and the problem.

The Charleston District is holding their three basic meetings for each of their projects. They present their case to the public and ask for the public's views

Of the two districts contacted and the Office in Washington, it seems as if these people are conscientiously going through the mechanics of qualified public participation but are lacking the emphasis that it really needs.

The Environmental Protection Agency was not found to be as deeply involved with public participation as might be expected. The one major accomplishment in this field is a program funded for the Conservation Foundation. The Conservation Foundation has put on a series of two-and-one-half-day institutes on water quality training. The purpose of these institutes was to inform the citizens through procedural and technical information of how they can influence decisions made under the 1972 Water Quality Amendments (P.L. 92-500).

The 2-1/2-day institutes were designed for the key environmental leaders. These people are expected in turn to go out in their own region and hold one-day workshops for interested personnel, industry, labor forces, citizens' groups; in fact, all non-environmentally oriented to become environmentally oriented. This would also be suitable for engineers in the field. Awareness and active involvement in water pollution was a main concern.

The role of the regional office of the EPA is to furnish speakers. The Washington office of EPA furnishes copies of documents bearing on water problems.

The regional office of EPA in Atlanta has also held four workshops or citizens' briefings on water and solid wastes. The idea in each of these workshops was to get the public there and point out what their role can be. It was open to the public, but it is thought that only those individuals who were already interested showed up.

As can be seen by this, EPA also seems to be carrying through the motions of public participation. They seem to believe that this is all that is required or possible at the moment. They are planning to let the institutes carry on into fiscal year 1975.

The Soil Conservation Service's response was that everything deals with the public, and they would not do it without it. All members of the service are seeking public participation that is persuasive and voluntary.

It seems that all three of these government agencies are using public participation only because it is necessary for their image and complying with requirements. Most of the people with whom contact was made would like to see more public participation. The general consensus of what type of pro[illegible] have would be how to develop public involvement using the largest audience with the most sustained active interest where the most knowledge could be consumed.

The second facet of this subsection was to delineate as well as possible the nature of the educational effort needed to improve the skills of the key water resources planning and management decision-makers in the South Atlantic-Gulf-Tennessee region. Several factors have to be considered in prescribing the format for the effort.

First of all, there is the nature of the proposed audience or target group. They are management personnel and decision makers. They are heavily or significantly involved in the conduct of or have responsibility for planning and management matters. They are predominantly from state and federal agencies, industry, and citizens' groups, a rather diverse group with different backgrounds and objectives. It can be assumed that all are interested in the long-range public interest as they see it.

Then, there are the topics or subjects to be addressed or covered, mainly non-technical in nature. Included would be: A willingness to work with or accept opinions from other disciplines and "non-professionals," the need for water resources "development decisions" to consider the desires of the public(s), be aware of evolving and changing goals of society today, attitude adjustment, and sensitivity to non-technical and non-economic aspects of project development.

Another factor would be the time constraint for such an educational endeavor. It could be a day, an afternoon, a weekend, at most a week, maybe a day or an afternoon every week for several weeks, or perhaps a day or an afternoon every month for several months. The target audience is made up of busy people with limited time to devote to any continuing education effort, no matter how important.

The size of the audience would be important. Perhaps there are really at most 50 to 75 key water resources decision-makers in the region. Would it be best to have one single meeting place for all? Or would it be better to limit it to maybe ten per session and have meetings or programs scattered around the region?

There are some undetermined constraints on budget for such an effort; but due to the magnitude of the water resources development budget in the region, a sufficient amount of funds should be available.

What format should be used? Several have been proposed by project personnel. Excluded have been conventional university courses, traditional lecture-type short courses, and the like. Attractive alternatives include: (a) a seminar approach with some expert resource people and some "success stories" presented; (b) a weekend retreat involving personnel from agencies and industry as well as citizens' groups to gain a better understanding of one another; (c) gaming, simulating, and role-playing to attain a better appreciation of other parties involved; (d) visit on and off the job with a peer or counterpart known to be successful in public participation on a one-to-one basis; and (e) some sort of self-study program perhaps involving taped discussions among articulate representatives of divergent interests, experts in communications, psychology, etc. and individuals who have had noteworthy successes in public participation.

A number of prominent experts and specialists in educational methodology, executive training, etc. around the country were contacted. The formats suggested above reflect their suggestions for this target audience and the nature of the material to be conveyed. The journals in education and training were of little value, and the experts contacted seemed to agree that there was a great deal of "art" associated with selecting the proper format.

There have been some noteworthy successes in situations similar to those identified in this research; i.e., attitude adjustment, awareness and sensitivity enhancement, etc. relative to natural resources matters. Some of the examples found include: (a) the continuing Public Service Company of Colorado "environmental awareness" program for middle management personnel, (b) the National Wildlife Federation-Edison Electric Institute program which brought power industry leaders together with conservation leaders, and (c) efforts which have involved Duke Power Company and Westinghouse Electric Corporation personnel relative to major projects in the Carolinas. Additional investigation would certainly identify a number of efforts of varying success from which much could be learned to prepare an effective educational program for key water resources planners and managers in the South Atlantic-Gulf-Tennessee region.

Acknowledgements

In addition to financial support from the Office of Water Resources Research and the South Carolina Water Resources Commission, the principal investigator is indebted to five graduate research assistants who have served on this project. They are, along with the degree being sought: Mrs. Joanne J. Fletcher (M.S. - Water Resources Engineering), Miss Lynn E. Kress (M.Ed. - Education), Mr. Charles H. Langdon, III (M.S. - Water Resources Engineering), Maj. William P. Merritt (Ph.D. - Engineering Management), and Mr. Stephen Sutterfield (M.Engr. - Water Resources Engineering).

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APPENDIX A

INITIAL MAILING

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CLEMSON UNIVERSITY
CLEMSON, SOUTH CAROLINA 29631

COLLEGE OF ENGINEERING
WATER RESOURCES ENGINEERING

TELEPHONE 656-3276
AREA CODE 803

13 March 1974

Col. Robert C. Nelson
Charleston District, Corps of Engineers
P.O. Box 919
Charleston, SC 29402

Dear Col. Nelson:

Your participation in an ongoing regional water resources study is desired. We think it is important, and we need your help.

This project deals with public participation in water resources planning and management, and an attempt is being made to identify the key individuals in this field. These "key" persons may have "planning and management" responsibilities or involvement from across the whole water resources spectrum. This could include persons in federal, state or local governmental agencies, industry, the academic community and citizens' groups.

With this objective in mind, we are contacting a few people from throughout an eight-state Southern region, who are known to be involved within the mainstream of "water resources" activities. We would appreciate your assistance in this study by identifying those persons, among your contacts and associates, whom you believe to be the "key" individuals within the water resources planning and management community. These individuals may be know by you personally, or through indirect contact.

A stamped, addressed envelope and listing forms are enclosed for your convenience. Your participation will be appreciated and will certainly be beneficial to the study. We believe that the completed project will provide our region with some rather valuable and interesting insights into past and present water resources planning and management activities. The results of this investigation should be useful to all of us in more effectively dealing with the wise use, planning and management of the region's water resources.

Thank you for your cooperation.

Very truly yours,

Benjamin C. Dysart, III
Director
Water Resources Engineering

BCD/zc

Enclosure

P.S. If you would like a copy of the final report, please check the "report" box on the next page and print your name on the space beside.

REPORT ☐ ______________________

U. S. Department of the Interior
Office of Water Resources Research
Project No. B-081-SC

Regional Research Project on Public Participation in
Water Resources Planning and Management
(South Atlantic-Gulf-Tennessee Region)

KEY INDIVIDUALS IN WATER RESOURCES

CLEMSON UNIVERSITY
SOUTH CAROLINA
1889

NOTE: Name and affiliation are essential; other information, if not readily available to you, will be obtained by us.

Name: ______________________
Title or Position: ______________________
Affiliation: ______________________
Mailing Address: ______________________
____
____

Phone: AC____ / ____-________

Name: ______________________
Title or Position: ______________________
Affiliation: ______________________
Mailing Address: ______________________
____
____

Phone: AC____ / ____-________

Name: ______________________
Title or Position: ______________________
Affiliation: ______________________
Mailing Address: ______________________
____
____

Phone: AC____ / ____-________

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APPENDIX B

SECOND MAILING

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CLEMSON UNIVERSITY
CLEMSON, SOUTH CAROLINA 29631

COLLEGE OF ENGINEERING
WATER RESOURCES ENGINEERING

TELEPHONE 656-3276
AREA CODE 803

10 May 1974

Col. Robert C. Nelson
Charleston District, Corps of Engineers
PO Box 919
Charleston, SC 29402

Dear Col. Nelson:

Earlier this year, we contacted several people from throughout the South Atlantic-Gulf region who were known to be involved within the mainstream of "water resources" activities. We asked that they help us in identifying the "key" individuals who have planning and management responsibilities or involvement from across the whole water resources spectrum. This included persons in federal, state, or local governmental agencies; industry; the academic community; and citizens' groups. The response has been truly successful.

You have been identified as one of those "key" individuals. We would, therefore, appreciate your assistance in the continuation of our study which deals with public participation in water resources planning and management. You have become an integral part of this effort and can help us by completing the enclosed form and returning it to us at your earliest convenience. A stamped, addressed envelope is enclosed.

The results of this investigation should be useful to all of us in more effectively dealing with the wise use, planning, and management of our region's water resources.

Thank you for your cooperation.

Very truly yours,

Benjamin C. Dysart, III
Director, Water Resources Engineering

BCD/sc
Enclosures

U. S. Department of the Interior
Office of Water Resources Research
Project No. B-081-SC

Regional Research Project on Public Participation in
Water Resources Planning and Management
(South Atlantic-Gulf-Tennessee Region)

NOTE: Please answer the following questions as they apply to you within the field of water resources only.

---

1. Affiliation (check only one): ___ Academic ___ Citizen's group ___ Business/Industry ___ Federal agency ___ State agency ___ Other governmental affiliation

2. Is your position, within the field of water resources, one of:
   ___ primarily management and/or planning?
   ___ some management and/or planning?
   ___ no management and/or planning responsibilities?

3. As relates to your water resources activities:
   How many years have you been with your present organization? ________
   How many years have you been in your present position? ________
   How many years have you had at least some management and/or planning responsibilities? ________
   How many years have you been involved with some aspect of water resources? ________

4. Undergraduate degree(s):
   Degree and major field ______________, year degree received __________
   Degree and major field ______________, year degree received __________

5. Graduate degree(s):
   Degree and major field ______________, year degree received __________
   Degree and major field ______________, year degree received __________

6. Name any fields of minor study or interest associated with either graduate and/or undergraduate study: ______________________________

7. Is your organization involved with any aspect of public participation?
   ____yes ____no

8. Does your organization have (answer "yes" or "no"):
   ______ an active, organized public participation policy or program?
   ______ a person, department, or committee whose major responsibility is public participation?

9. Does your present position, as relates to water resources, involve you in any aspect of public participation? ___ no, ___ occassionally, ___ to a large extent, ___ yes, it is a major element of my position.

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10. Do you believe that your present understanding of public participation is sufficient? ___ yes, ___ fair, ___ uncertain, ___ poor, ___ no

11. How do you personally view public participation? (check only one)
___ "a waste of time/distraction"
___ "a necessary evil/of no benefit"
___ "only mildly helpful/beneficial"
___ "occasionally helpful/beneficial"
___ "often helpful/beneficial"
___ "a helpful/beneficial and valuable tool"

12. Does public participation: (check all that apply)
___ improve your organization's public image?
___ make your projects more responsive to public needs?
___ improve the project design?
___ aid in evaluation of alternatives?
___ expedite project completion?
___ delay project completion?
___ improve coordination between interested parties?
___ promote conflict between groups or parties?
___ lead to better long-range use of water resources?
___ fail to contribute or benefit your projects?

13. If you are involved in public participation through your present position, within the field of water resources, where did you learn about public participation, develop your techniques or attitudes? (check all that apply)
___ organization policy directives
___ inhouse public relations people
___ outside public relations people
___ current readings in professional journals or the popular press
___ self-study
___ colleagues with public participation knowledge or experience
___ seminars or professional workshop-type programs
___ formal course(s) of study
___ incidental lectures at general professional meetings

14. Do you believe that an inhouse public participation training program would be beneficial to your organization?
___ yes ___ no ___ maybe

15. Do you believe that a state, regional, or specific industry public participation training program would be beneficial to your firm or organization? ___ yes ___ no ___ maybe

16. Would you attend a public participation training program if available to you? ___ yes ___ no ___ maybe

17. In which state do you reside? ___ Ala, ___ Fla, ___ Ga, ___ Miss, ___ NC, ___ SC, ___ Tenn, ___ Va

18. Would you care to provide additional information relative to any of the above items or make additional comments?

APPENDIX C

STATISTICAL ANALYSIS PROGRAM NAMES

Name	Description/Data Element	Question
AFF	Affiliation A-Academic/Citizens' Group B-Business/Industry F-Federal Agency S-State and Other Gov't Agencies	1
POS	Position within water resources (WR) P-primarily S-some N-none	2
YPO	Years in present organization	3a
YPP	Years in present position	3b
YMR	Years of management/planning responsibility in WR	3c
YWR	Years involved with WR	3d
BDEG	Bachelor degree E-engineer R-other than engineer	4
YSBD	Years since received bachelor degree (1974 minus year degree received)	4
MDEG	Masters degree E-engineer R-other than engineer	5a
YSMD	Years since received masters degree (1974 minus year degree received)	5a
PHD	PHD degree E-engineer R-other than engineer	5b
YSPHD	Years since received PhD degree (1974 minus year degree received)	5b
YSLD	Years since last degree (1974 minus last degree received)	4 or 5
MS	Minor study D-engineer major, minor in other area E-other than engineering major, minor in engineering area N-none/no change	6
OIPPL	Organization involved with public participation (PP) - yes or no	7

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Name	Description/Data Element	Question
OIPPN	Organization involved with PP 1-yes 0-no	7
OPL	Organization has PP policy/program- yes or no	8a
OPN	Organization has PP policy/program-1 or 0	8a
PDCL	Person, department, or committee in organization for PP- yes or no	8b
PDCN	Person, department, or committee in organization for PP- 1 or 0	8b
PPIWR	Present position involves PP as relates to WR Y-yes, major element L-to a large extent O-occasionally N-no	9
UPPS	Understanding of PP sufficient Y-yes U-uncertain P-poor N-no	10
PVPP	Personal view of PP 0-distraction to 5-helpful	11
SPP	Score on PP 0-poor attitude to 10-most positive attitude	12
LPP	Learning about PP 0-used no learning techniques to 9-used all techniques	13
PD	Policy directives	13
IP	Inhouse public relations	13
OP	Outside public relations	13
CR	Current readings	13
SS	Self-study	13
CK	Colleagues' knowledge	13

Name	Description/Data Element	Question
WS	Workshop	13
FC	Formal course	13
LM	Lectures/meetings	13
IPPB	Inhouse PP training program beneficial Y-yes M-maybe N-no	14
RPPB	Regional PP training program beneficial Y-yes M-maybe N-no	15
APP	Would attend PP training program Y-yes M-maybe N-no	16
STR	State in which reside A-Alabama N-North Carolina F-Florida S-South Carolina G-Georgia T-Tennessee M-Mississippi V-Virginia	17
ADDC	Additional comments P-positive I-indifferent/no comment N-negative	18

EDUCATION OF PUBLICS FOR PARTICIPATION IN WATER RESOURCE POLICY AND DECISION-MAKING

by

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I. THE PROBLEM

Introduction

This conference is directed toward examining the issue of participation of publics in plans and decisions for purposive social action, particularly that which pertains to water resources development. How far the "state-of-the-art" has advanced in its capacity to deal with complexities of providing for citizen involvement throughout the entire planning and management process is the primary theme of the conference papers and associated discussions. The specific aspect of the conference theme which this paper addresses is how water resources agencies are meeting the challenge of providing for public participation in their planning and management policies and practices through efforts to inform and educate publics.

For research purposes, the term "public participation" was defined as any activity through which members of society, who are not formally engaged in the planning and management of water resources development programs, can take part in planning and decision-making events (see Yukubousky, 1973:2). Thus, public participation as defined here, may refer to involvement of locally elected officials, government administrators at all levels, members of civic and other voluntary associations, as well as individual citizens. Activities, which are often initiated by agencies, for involving publics may be classified according to one of three functional orientations: education/information, review/reaction and interaction/dialogue (Warner, 1971:30). Education/information programs are, essentially, one-way communications originating with the public agency.

Although emphasis on each of the various public participation functions varies according to the stage of the planning process (Warner, 1971), the need for informing and educating publics is present at every stage in the plan development (Bishop, 1970). Recognizably, the information/education efforts

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of public agencies must be integrated with other strategies to achieve effective public participation; however, it has been asserted that "providing various segments of the public with timely and meaningful information in the investigation is the most important key to prompting response and participation from the public."

Purpose and Objectives

The primary objective of this paper is to explore the state-of-the-art of information/education programs which have been and are currently being used by water resources agencies to elicit public participation in agency planning and decision making. This is done in several steps. First, attention is given to the development of formal public participation policies and their implementation at agency level. Second, an analysis of the adequacy and efficiency of the various information/education mechanisms that have been used in agency programs is made. Both were based upon a critical and systematic review of literature, including published and unpublished technical and scientific documents. The intent was to be thorough enough to be representative, though not necessarily exhaustive. Third, results of analysis of empirical data obtained from a mail survey of Mississippi agencies engaged in various facets of water resources planning and development are presented. In conclusion, the discussion concerns implications of the overall research effort for water resources agencies seeking to improve their public information/education programs.

II. STATE-OF-THE-ART: AN OVERVIEW OF PROGRAMS TO INFORM AND EDUCATE PUBLICS

Review of Policy and Program Developments

Public agencies have traditionally recognized their responsibility to inform the public as "inherent in their role as public institutions" (Warner, 1971:21). However, in the past decade, significant changes on the American scene have contributed to new interpretations of public participation (M.I.T., 1973). Along with a general rise in the educational level of the population, the American public has become increasingly attuned to the need for some of the social reforms advocated by proponents of various social action movements--ecological, civil rights, labor, and others. Similarly, events on the national and international fronts have created widespread public awareness of growing scarcities of the essential life-sustaining elements of water, land, space, and energy sources. Thus, the public has asserted its "right to know" and "right to be heard." The transition of the role of the public from "informed observer" to "citizen participant" has transformed the role of public agencies from that of representing and informing publics to that of educating publics and coordinating their involvement in agency programs.

It appears that the transition has not been an easy one (Spiegel, 1968; Burke, 1968). This is evidenced by a look over the last decade or so at the policies, practices and experiences of agencies such as the U. S. Army Corps of Engineers which has major water resources planning responsibilities in connection with its civil works program.

Formal Policy in the 1960's

In the 1960's, formal federal requirements for informing and securing feedback from the public regarding land and water proposals was limited to (1) public hearings, and (2) public announcements regarding hearings and the availability of final reports. As a result, public hearings were the primary and, in many cases the only, mechanism used both for informing publics and for inviting reactions to water studies. Although official guidelines specified that initial hearings were required in the early stages of a planning survey, the incidence of additional hearings was left to the discretion of the District Engineers. It was recommended, however, that "hearings to inform local interests of developments or proposals nearing the decision stage should be held sufficiently in advance of scheduled submission of the report to insure that local interests have adequate time to consider their position on the proposals and alternatives and to provide adequate time for careful consideration of all views expressed" (Department of the Army, 1964:119).

Policy Implementation in the 1960's

One investigation (Wolff, 1971) of a sample of 28 Corps' studies conducted in the 1960's showed that implementation of Corps policy regarding hearings and announcements varied widely among districts and often fell short of fulfilling official policy. The research findings indicated that although almost all districts held hearings at the beginning of their surveys, only 10 percent held intermediate hearings and 54 percent held hearings toward the end of their surveys. Additionally, although policy on announcements of hearings specified that invitations be issued both through the press and through the "interested parties lists" maintained by the district offices, the investigation revealed that in many cases announcements and coverage of the hearings were not made by the media, and that the mailing lists were not representative of all public interests. Thus, the opportunity to receive information or to have even minimal input into the study recommendations was not made available to all publics in these cases.

When the time lapse between the initial hearing and the final hearing (if one was held) was six or more years, the value of the hearings to the planners and the public has been questioned (Wolff, 1971). The period between the initial and final hearings has labeled as the "invisible" period (Warner, 1971) when, typically, little information regarding agency progress and decisions was available to the public.

Case Example: Ames Reservoir Proposal. Illustrative of the consequences of withholding information from the public was the experience of the Corps of Engineers with the Ames Reservoir Proposal developed in the 1960's. A survey of area residents (Bultena, *et al*, 1973) revealed that one-fourth of the respondents were unaware of the reservoir proposal, two-thirds were unaware that the Corps was the planning agency, and three-quarters were not aware that public hearings had been held. Only favorable information about the project was released by the Corps, and except for the required public hearings, no informational meetings were held with publics. Thus, citizens who did attend the public hearings had little or no prior information concerning the proposal, nor were subsequent reports regarding the hearings made available. Public opposition emerged and gained momentum as individuals and groups opposing the project aired their views via the media and personal communication.

Development of Broader Informational Programs in the 1960's

The 1960's also gave rise to the beginning of increased agency responsiveness to the information needs and demands of publics. Summaries of several case examples are useful in following the development of early efforts of planning agencies to build public involvement and support through informational/educational programs.

Case Example: Susquehanna Basin Study One of the earliest examples of an extensive effort to communicate with and involve publics in water resources planning and decision-making was the Susquehanna Public Information and Participation Experiment. It has been described as the "ground-breaking" effort by the Corps of Engineers to initiate public participation in water resources planning and decision making (Hahn, 1972).

Initial public meetings were held to identify the water problems and needs recognized by Basin residents (Murdock, 1972). Supplementary informational mechanisms employed included printed leaflets, periodic newsletters, and personal contacts. Little local interest or input resulted, however, and as the decision stage approached, the Coordinating Committee acknowledged a need to establish better communications with local citizens (Murdock, 1972). An extensive information campaign was launched which included a series of local workshops, widespread use of mass media and staging of nine public forums. Although the forums were poorly attended, they served to expose public opposition to the plans; however, only minor changes were deemed feasible due to time boundaries (Allee, 1970).

The research team assessing the Susquehanna experiment noted that a prevalent feeling among some local residents was that the meetings were "more in the nature of review sessions than opportunities for active participation in the plan's formulation" (Borton, et al, 1970:35-6). The researchers concluded that the workshops and forums were held too late in the planning process to permit adequate citizen feedback and input. Another analysis (Allee, 1970) stressed the need to identify and involve opposing groups at an early date in order to consider all alternatives and to make the accommodations necessary to effect an acceptable plan. Although the Susquehanna planners achieved their goals of providing information to and eliciting response from publics, because of their timing of the information-participation efforts, the ultimate goals of incorporating public input and building public support were not realized, and the unresolved conflict resulted in an impasse regarding plan implementation (Finley, 1972:63).

Case Example: Brandywine Planning Project. Another example in which a public involvement program was for the most part restricted to an information/education program initiated late in the planning process is that of the Brandywine Watershed Planning Project. The information program succeeded in developing public awareness and interest, but due to lack of public input failed to establish public support for the plan that had been developed by a team of consultants and approved by all involved township boards (Warner, 1971).

Communication mechanisms employed included informational newspaper articles; descriptive publications mailed to property owners; meetings with a Governmental

Coordinating Committee, representatives from all of the township supervisory boards and relevant county planning agencies, and a Citizens Committee made up of representatives from local church, social and civic groups; public meetings; individual visits with affected landowners; and a survey of residents. Assessment of the efforts revealed that little interest was aroused until the issue became controversial, and that in spite of the educational efforts, the public lacked the knowledge necessary to participate effectively in public meetings. One observer (Woods, 1968) stressed the need for planners, prior to the initiation of formal planning, to identify local issues, to meet with local leaders, and to launch a preliminary information program regarding the water problems in need of solution (Woods, 1968). Project evaluators (Keene and Strong, 1970:58) concluded that local support for a water proposal which entails "substantial changes in many areas of personal concern to residents" will be forthcoming only if at least one of two conditions is met: (1) substantial local input in the development of the project and/or (2) prior support for the project objectives. They further stressed the need for providing sufficient time for the development of a proposal that is acceptable to a "substantial number" of publics.

Case Example: Puget Sound Study. The Puget Sound Study, begun in 1964 and completed in 1971, is another example of belated efforts to secure public understanding of and support for a proposal which was developed without public input. Workshops initiated late in 1970 in response to increasing public opposition provided opportunity for planners to inform and receive feedback from publics, but failed to substantially resolve opposition to the proposal (Widditsch, 1972). Major complaints were lack of information and lack of public involvement in the development of the proposal. Because of the timing of the workshops, participants validly questioned the impact of their participation on the project proposal. In evaluating the Puget Sound Study experience (Widditsch, 1972), recommendations for future efforts included devising a plan for involving publics, involving publics early in the study, clearly demarcating roles and responsibilities, providing for broad representation of publics, and providing appropriate printed information throughout.

Case Study: Grand River Basin Study. A final example is the Grand River Basin Study, begun in 1963. As the study drew to a close in 1969, the Coordinating Committee initiated an extensive public information program (Warner, 1971). A large number of meetings were held with local officials, agencies, civic groups, and individuals. Information was disseminated via television, radio, and newspapers. Although several changes were made in the preliminary plan, public opposition increased, and at the public hearings held the following year, publics demanded the consideration of alternatives other than those recommended by the Coordinating Committee. As the study was essentially completed, the Committee developed an alternative plan as an addendum to the original document (Warner, 1971). Project evaluators (Bromley, et al, 1971) suggested that (1) the public should have been involved in the planning and evaluation of alternatives earlier and throughout the study, and (2) information on the progress and status of the study should have been made available to publics throughout the study process.

Analysis of Case Examples. The case experiences cited above have a number of inferences for all facets of public participation programs. Of interest to this discussion, however, is their bearing on the rationale and planning of the informational/educational segments of public participation programs.

First, although extensive information programs were employed, the goal of the agency in each case appeared to be limited to that of eliciting public support for plans already completed. In all cases, the timing of the informational programs and public meetings were initiated too late in the planning process to permit significant public input into proposal development, and conflict developed as publics protested their lack of input. The examples suggest that hearings and informational programs held late in the planning process may be no longer acceptable to the public as the public participation program of an agency.

Another common feature of the examples cited was the absence of information bridges between the initial and final hearings. Unless publics are informed of agency progress in identifying water needs and problems, the pros and cons of alternative solutions and agency decisions regarding the solution(s) to be studied in depth, potential conflicts between the views of the agency and the public cannot be identified and dealt with at an early enough stage to accomplish their resolution. Water surveys and investigations are limited by constraints of time and budget, and except for minor revisions and alterations, agency recommendations resulting from expensive and lengthy investigations are amenable only to acceptance or rejection. If rejected, public resources involved in the investigation are wasted, and subsequent alternatives are limited to those of "no action" or initiation of a new investigation.

Policy Changes in the 1970's

While there have been wide variations in the past in the interpretation and implementation by Corps district offices of formal policy regarding public hearings (Wolff, 1971), more recent statements of policy are specific in delineating public participation goals and procedures (see Department of the Army, Office of the Chief of Engineers, 1970a, 1970b). A publication issued in 1970 stipulated that public meetings (formerly called public hearings) should be held whenever needed but particularly at three junctures in the planning process: (1) in the early stages to inform the public of the type of study to be made and to initiate communications with the public, (2) after identification of alternative solutions but prior to tentative decisions regarding most viable solutions, and (3) following selection of solutions, but prior to report completion. Stated purposes of the meetings were "to inform interested parties . . .; to give them an opportunity to freely, fully, and publicly express their views . . .; to obtain factual information to assist in arriving at sound conclusions and recommendations; and to contribute to interagency coordination" (Office of Chief of Engineers, 1970a). Environmental guidelines issued in 1970 (Office of the Chief of Engineers, 1970b) pledged that the Corps would "provide governmental and non-governmental agencies and the public with timely information on opportunities, consequences, benefits and costs--financial and environmental--before making recommendations and that they would do whatever is necessary to obtain the wide range of views which make up the public interests [and inject them] into every aspect of our work." In a 1971 circular, the Office of the Chief interpreted public participation as a "continuous two-way communication process." It also directed planning personnel to develop communications channels and provide "structured opportunities" for publics to express their views and to be influential in the planning process. Planning offices were also required to submit a "public participation plan" outlining provisions to be made in the planning process for identifying relevant publics, two-way informational needs and appropriate communication mechanisms. Procedures for announcing meetings and record maintenance and dissemination were also specified.

Development of Multi-Faceted Program Approaches in the 1970's

Several recent Corps efforts by the Corps and other water resources agencies have sought to be more responsive to the informational and participatory needs of publics and, in some cases, to develop new and innovative approaches.

Case Example: Seattle District Fish-Bowl Project. A prime example is the Seattle-District "Fish-Bowl" Planning Project. The innovative approach adopted by the Seattle District combines oral and written strategies in the form of meetings, workshops and "public brochures with feedback," beginning in the earliest planning stage and continuing to the completion of the final report. The innovative "feedback" brochure coordinates and provides continuity to the entire planning process. Following each public meeting, brochures are updated and distributed to all individuals and groups included in the interested parties mailing list. The brochures summarize the pros and cons of each alternative suggested by planners and citizens (as well as a "no action" alternative) (Sellevold, 1971; Warner, 1971). Public announcements provide information regarding the availability of the brochure for the benefit of interested persons. New persons or groups attending the meetings or returning the feedback portion of the brochure are added to the mailing list for future announcements and brochures (Sellevold, 1971; Warner, 1971). An assessment of the "fish-bowl" model, which is being implemented in a number of studies, is currently under review by the Corps and was not available at the time of writing.

Case Example: Upper Rock River Basin Workshops. Another experimental effort was made by the Rock Island District Office in its study of the Upper Rock Basin. Workshops were held in ten Basin locations in 1970 and were preceded by a mass mailing of workshop notices, information pamphlets, and questionnaires. The District Office reported that the workshops which consisted of both informational presentations and small group discussions "provided useful information for assessing the types of studies most likely to result in politically and socially acceptable solutions to the basin's needs" (U. S. Army Corps of Engineers, Rock Island District, 1970:34).

An evaluation of the project (Bromley, et al, 1971), found that in spite of the informational and participatory mechanisms implemented by the Corps, the program failed to achieve a number of basic objectives of public participation including failures to inform publics of viable alternatives, to maintain public awareness and interest, to provide a forum for intergroup communication and bargaining and to use public views in the development of plans. The first two deficiencies relate to the information/education segment of public participation programs.

Case Example: Inland Lakes Project. The Inland Lakes Project (Fulton, et al, 1971), conducted by the Huron River Watershed Council, developed a brochure approach similar to that of the Seattle District Corps of Engineers. The first series of brochures were designed as mail response forms to obtain citizen feedback regarding water problems, needs, and solutions. Two informational brochures were subsequently prepared and distributed to publics who responded to the first brochure. The first explained concepts in lay terms and made use of graphic displays to ease reader assimilation of the information. The second included discussion of problems and solutions in more detail, as well as specific guidelines for community action. The distribution of the brochures was followed by a series of meetings with community leaders to answer questions and to obtain additional feedback (Fulton, et al, 1971). As the project did not include a problem-solving stage, it is not possible to evaluate the effectiveness of the informational program in facilitating citizen participation in the problem-solving processes (Ortolano and Wagner, 1973).

The preceding review of experiences with public participation programs serves to illustrate the need for supplementing formal hearings with complementary and innovative methods for informing and involving publics. No one public participation strategy will meet the needs of all water projects. Communication mechanisms must be selected on the basis of their suitability to the objectives of a project and the characteristics of the affected area and publics.

Establishment of Planning Principles and Standards in the 1970's

As the foregoing attests, the need for increased efforts and imaginative approaches to educate and involve publics has been recognized by federal authorities and a series of directives and procedures have been issued for agency guidance. The U. S. Water Resources Council issued standards in July, 1970, which called on leaders in water and land resources planning to "involve all concerned interests in identifying an area's problems and needs, in planning alternative solutions, and in decisions as to action."

The "Principles and Standards for Planning Water and Related Land Resources" were established by the passage of the Water Resources Planning Act (P.L. 89-90), becoming effective in October 1973 (Federal Register, 1973). The new standards provide the basis for federal participation with river basin commissions, states, and others in the planning of water and land resources programs and projects. The standards require that

> efforts to secure public participation...be pursued vigorously through appropriate means of public hearings, public meetings, information programs, citizen committees, etc. (p. 96).

With reference to requirements for informing and educating publics, agencies must make available "all plans, reports, data analysis, interpretations and other information for public inspection." The standards require the preparation of a "system of public information accounts" in which the beneficial and adverse effects of all alternative plans under consideration be displayed "in a format which is clear and useful to all participants in the decision process."

Analysis of Information/Education Mechanisms

The next focus of our discussion is an analysis of the characteristics and usefulness of specific types of informational mechanisms and is based on two literature sources: a number of surveys and program evaluations sponsored by water resources agencies and the communications research literature. The mechanisms considered are those which have been used by water resources agencies to inform and educate publics regarding agency programs. In several cases, the primary emphasis of a mechanism is that of eliciting responses from publics (review/reaction) or that of dialogue/interaction. Each of the mechanisms, however, contains information/educational capabilities and the discussion is directed toward those capabilities. The first part of the discussion provides a brief review of the use and evaluation of various mechanisms as evidenced in agency-sponsored educational programs.

Mass Media

The mass media include "all types of print and electronic channels" (Rogers, 1969:125). These channels are, primarily, television, radio, newspapers, and magazines but may include other means of reaching the masses, such as mass mailing of pamphlets or brochures, mass telephone campaigns, loud-speaker announcement, etc. The media are ideally suited for the widespread dissemination of information and one study (Wolff, 1971) showed that the news media were mechanisms having the greatest amount of contact with the public. It was also demonstrated that mass media communication were viewed as among the most useful communication mechanisms by planning agencies (Warner, 1971), but findings of a survey (Wolff, 1971) of publics (i.e., persons included on the Corps of Engineers' interested parties lists) appeared to indicate that media communications are viewed as less important by the publics than other methods.

Printed Materials

Until recently, little attention was given by water resources agencies to providing printed informational materials regarding water plans and proposals. Formal requirements were limited to printed announcements via the media and a mailing list, with final reports of Corps' studies generally being made available only to persons requesting and paying for copies (Wolff, 1971).

A survey (Wolff, 1971) of persons included on the Corps' mailing lists found that only 39 percent of the respondents had contact with survey reports, 32 percent with printed summaries and progress reports, and 30 percent with brochures. The survey also discovered a deficit between past contact with and perceived importance of several communication techniques including progress reports and detailed investigation reports. This finding apparently denotes a desire for increased exposure to these informational sources (Wolff, 1971). Another survey (Warner, 1971:138-39) of publics prompted the observation that because background knowledge and information needs of publics vary, planning agencies should provide information ranging in content and technicality.

The public generally has not had access to Corps survey reports until the publication of the final report. Nor have all affected governmental agencies had opportunity to react to drafts of the final report as required by formal policy (Wolff, 1971). Non-profit organizations felt that Corps study reports were lacking in credibility and clarity and most of the respondents thought that detailed reports should be written in lay terms (Wolff, 1971). Although progress reports were viewed as having had little usefulness in the past, they were predicted to be of importance in the future, indicating a need for improving this informational mechanism (Wolff, 1971).

Brochures generally were perceived as limited in their effectiveness, possibly because they tend to be glossy, propaganda-type publications prepared for popular consumption rather than documents useful to interested persons. However, in at least two instances, innovative efforts have occurred to convert the use of the brochure as a one-way informational technique into a two-way informational mechanism. For example, the Seattle District brochures are periodically updated documents, written in lay terms, designed to disseminate information regarding planning progress and public views as well as to solicit public feedback (Sargent, 1971; Sellevold, 1971). The brochures contain background information, a summary of the pros and cons of each alternative solution under consideration, matrices displaying the projected impacts of each alternative, a "report card" indicating the respective contributions (or lack of contribution) of participants, and a glossary defining technical concepts. The brochures are updated and distributed following and preceding public meetings. The Inland Lakes Project brochures were similar to those of the Seattle District in that they included mail response forms to obtain citizen feedback.

The primary disadvantages of the feedback brochure approach was the time required to assimilate and update the information and publish and distribute the brochures at the appropriate periods in the planning process (Sargent, 1971; Fulton, et al, 1971). A criticism of the Seattle District brochure concerned the absence of visually attractive and easily assimilated visual aids, such as isometric drawings, with color emphasis on various details, color photographs, scenarios of projected social and economic impacts, and aerial photographs (Ortolano and Wagner, 1973). Another criticism was that the information and its organization were incomplete and, thus, were inadequate as a "basis for effective participation and decision making" (Aggerholm, 1973:15). The Inland Lakes brochures were judged as "clearly written, well illustrated and very informative" and were recommended as "models for future brochures which may be developed by Corps planners" (Ortolano and Wagner, 1973:A-22).

Public Meetings

Public meetings, hearings, and forums are typically advertised and open to the general public. The format and procedures used vary largely, depending on the way they are manipulated by the person or persons in charge. Generally, informational presentations by agency personnel are followed by an invitation to persons in the audience to make statements and/or ask questions.

Public hearings are traditionally formal and have, in the past, often served as "an information process rather than a [two-way] communication process" (Bishop, 1970:59). The typical format is for the chairman, usually an agency representative, to make an opening statement, followed by statements by other governmental officials in status sequence, after whom other persons in the audience are given an opportunity to speak (Willeke, 1971). Transcripts of the proceedings are made and subsequently opened to public availability.

In spite of a great deal of criticism of public hearings, they are viewed as the most useful of the past oral methods of communication and as needed in the future by persons surveyed from the Corps mailing lists (Wolff, 1971). The survey also found that although attenders were primarily those who felt that the water proposals would affect them in some way, proponents attended in greater numbers than opponents. It is possible that the opposite may sometimes appear to be the case due by the seeming tendency for dissidents to be more vocal in expressing their views.

Another survey (Warner, 1971) found that planning agencies viewed public meetings, speeches and public hearings as some of the most useful communication mechanisms. When asked to rank the mechanisms, public meetings were ranked higher than hearings and speeches. Presumably, public meetings are viewed as less structured and formal and thus more conducive to informal communication exchanges.

Small Group Discussions

Small intergroup discussion methods, such as workshops, seminars, conferences and citizen committees are increasingly being used by planning agencies in efforts to provide structured opportunity for constructive two-way communication between agencies and publics (Borton, et al, 1970; Bishop, 1970). Citizen advisory boards received the highest weighted ranking of all public participation mechanisms evaluated by planning agencies in one survey (Warner, 1971). Publics interviewed in the survey expressed dissatisfaction with traditional communications mechanisms and suggested increased use of citizen advisory boards, workshops, discussion groups and seminars.

In the Susquehanna project, both planners and publics viewed workshops "as a positive mechanism for improving communication in the planning process" (Borton, et al, 1970:32). As the workshops had dual objectives (i.e., information dissemination and public feedback), the need for a "linked series" of meetings over a period of time sufficient to allow participants to assimilate the information needed to enable them to make contributions that are "operationally useful" was stressed (p. 39).

Workshops, seminars, committees and other small group discussions and conferences are ideally suited for concentrated efforts on the parts of agencies and planners to exchange information and views and to seek resolutions to conflicts. To succeed in these objectives, however, they must be limited in size and must represent "the cross-section of interests in the community" (Bishop, 1970:77).

Planning workshops or conferences play a key role in several public participation models that have been developed for the guidance of water resources agencies (Sellevold, 1971; Wolff, 1971; Bishop, 1970; Borton, et al, 1970). In the models, they are not viewed as fulfilling all the informational-participatory objectives of public involvement programs, but as useful complementary mechanisms to other needed methods--typically, public meetings, printed materials and media messages.

Personal Contacts

Informal contacts and conferences have been a traditional means used by planning agencies to establish communications with other governmental agencies and key influentials. When asked regarding the usefulness of various communications mechanisms employed by their agencies in the past five years, government administrators and planners cited informal contacts more often than any other mechanism (Warner, 1971). When asked to rank the mechanisms in terms of their usefulness, informal contact was found to be the highest weighted mechanism for state and regional water resources agencies and the second highest for all responding agencies.

A major disadvantage of this mechanism is its lack of structure. Its effectiveness in informing and involving governmental representatives and interested publics depends upon the extent to which it is conscientiously employed and the representativeness of persons contacted. For example, an investigation (Wolff, 1971) of Corps public involvement practices showed that persons who expected to benefit from a water proposal had more personal contact with Corps personnel than persons who expected to be affected adversely. Its relative "invisibility" and the possibility of excluding important segments of the public underscore the need for this mechanism being used in combination with other more structured approaches (Warner, 1971).

Adequacy of Information Mechanisms

A study of public perceptions of the adequacy of information furnished by the Corps showed that in general persons who viewed water plans as "good" perceived the information supplied by the Corps as adequate while the reverse was true of persons who felt they were adversely affected by water plans

(Wolff, 1971). It was also found that persons having lower levels of education (high school or less) perceived the information made available as less adequate than persons who had some college or college degree(s).

Wolff (1971) found that perceptions of adequacy of information were significantly dependent on (1) whether the respondent had read the survey report or had conferences with water personnel, (2) whether the respondent had attended more than one hearing, and/or (3) whether the information received was relevant or "useful" to the receiver. As noted earlier, persons adversely affected reported less personal contact with water resources personnel than persons who expected to benefit (Wolff, 1971). These findings appear to corroborate the finding of communications researchers that (1) exposure to information is generally limited to a select audience of persons who are, generally, well-informed, better-educated, achievement-oriented males, and (2) effective communication with other groups requires concentrated communication efforts on an interpersonal level.

III. STATE-OF-THE-ART: RESULTS OF SURVEY OF SELECTED AGENCIES

To supplement the literature search on which the discussion thus far has been based, information on public participation policy and action was elicited through a survey of agencies engaged in various facets of water resources planning and development in the state of Mississippi. The survey data consisted of information obtained through a fixed-alternatives questionnaire mailed to 44 agencies with offices in Mississippi. Eighty percent of the agencies contacted responded; usable data was received from 30 agencies. Of these, twenty-one were involved in programs at the state level; seven at the federal level and two were regional units.

The respondents were individuals appointed within the agencies to respond to the questionnaires. All but two were males who ranged in age from 26 to 63 years, with an average age of 35 years. The respondents had been in the service of the representative agencies from one to 35 years, with nine years of service as the average for the group.

To present the survey results, the data are organized in two groupings. One set of measures are indicators of what the agencies were doing to involve publics in their programs. The second group of items reflects general opinions and attitudes of the respondents toward the issue of public participation.

Numerical results are shown as summaries in frequency and percentage form. Additionally, examples of the many comments and opinions voluntarily expressed by the respondents will be given. In view of the selection procedure and size of the sample, results must be interpreted as merely suggestive of parameters of larger populations.

Results

Table 1 shows the results of several measures of current public participation efforts. Sixty percent of the respondents reported activities initiated within their agencies in the preceding twelve months to increase public participation in their programs as well as to orient agency staff to public participation activities.

Several mentioned the initiation of specific activities, such as public meetings and questionnaires. Others called attention to staff and policy development actions. In one instance, a special study team had been formed and had prepared a detailed policy statement. Appeals to other agencies and research units were also reported. Staff orientation activities included in-service training programs, discussion sessions, observational field trips and official sanctions for closer cooperation with public officials and citizens at the "grass roots level." These data appear to suggest a trend toward increased efforts on the part of public planning agencies to involve publics.

The third and fourth items in Table 1 are concerned with specific information/education activities. In line with previous research findings, the agencies' most extensive information/education efforts have focused on government officials, with lesser efforts directed toward other publics. Other publics to whom programs were extensively directed tended to be those who had a vested interest in project accomplishment, those directly affected, and those whose cooperation facilitated project success. Several comments supported this observation. One respondent noted that "only a few citizens are concerned and then only if a project directly involves them--basically, there is a lack of citizen response." Another respondent summed up his views by saying, "Effectiveness of water resources programs is entirely dependent on the education, knowledge and participation of those most likely to be affected Without this, no clear-cut goals and objectives can be established and a means for attaining such cannot be delineated."

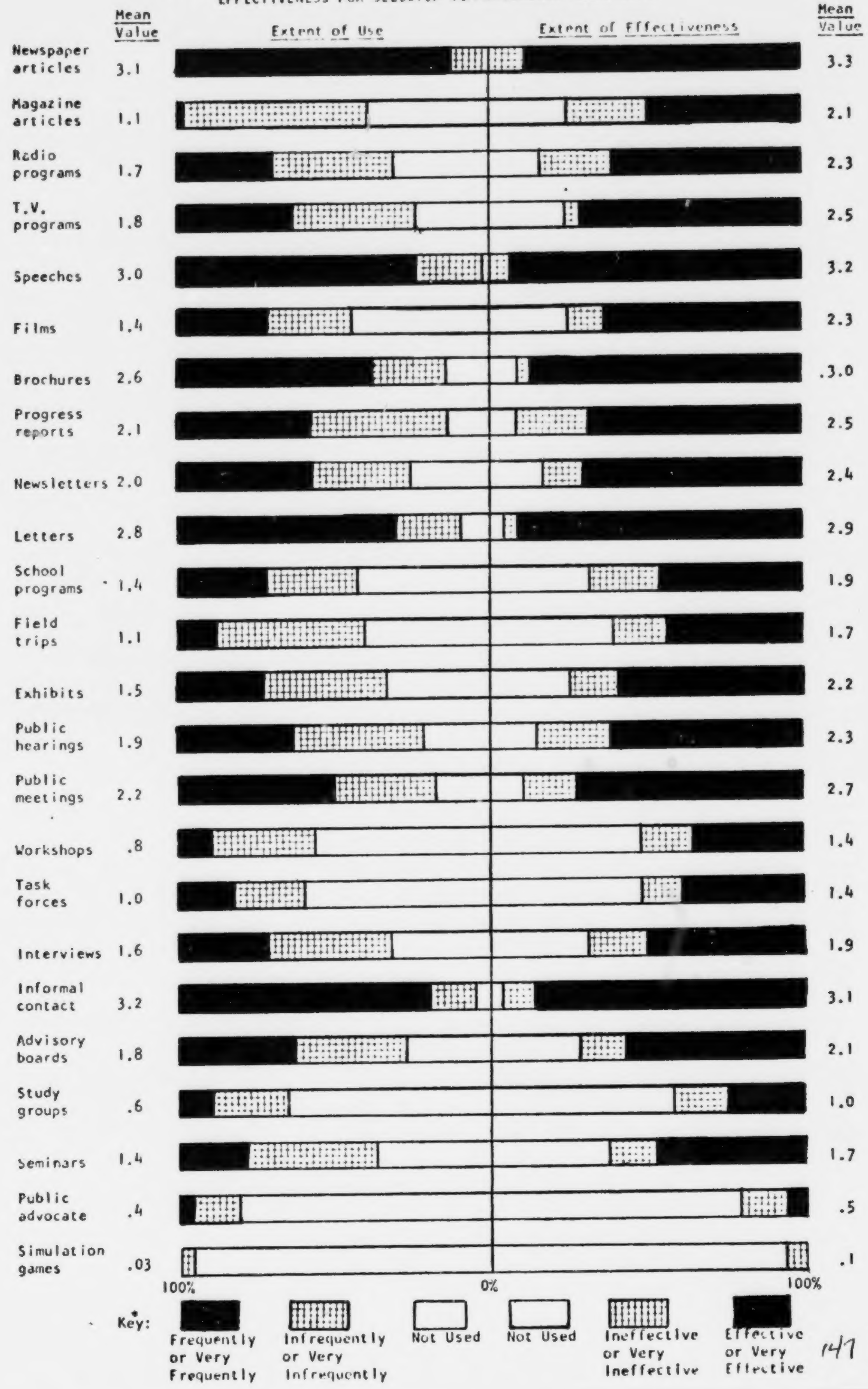
Table 1. Current Public Participation Activities of Surveyed Agencies

	Frequency (N=30)	Percent
1. Agencies Who Had Made Programmatic Changes in Past Twelve Months to Increase Public Participation in Programs	18	60.0
2. Agencies Who Had Taken Steps to Orient Staff Toward Involving Publics in Programs in Past Twelve Months	19	63.3
3. Publics to Whom Information/Education Programs Were Extensively or Very Extensively Directed		
Government officials	24	80.0
Business men	20	66.7
Civic groups	19	63.3
Present/potential affected property owners	17	56.7
Present/potential flood plain residents	12	40.0
Environmental groups	10	33.3
Sportsmen	10	33.3
Other citizens	5	16.7

4. Selected Assessments of Mechanisms Used in Information/Education Programs

	Used Frequently or Very Frequently		Rated Effective or Very Effective	
	Frequency (N=30)	Percent	Frequency (N=30)	Percent
Newspaper articles	25	83.3	25	83.3
Informal contact	24	80.0	24	80.0
Speeches	22	73.3	26	86.7
Letters	20	66.7	23	76.7
Brochures	17	56.7	22	73.3
Public meetings	15	50.0	20	66.7
Progress reports	13	43.3	18	60.0
Newsletters	12	40.0	17	56.7
Public hearings	11	36.7	16	53.4
T.V. programs	11	36.7	18	60.0
Advisory boards	10	33.3	16	53.4
Radio programs	9	30.0	13	43.3
Films	8	26.7	15	50.0
School programs	8	26.7	12	40.0
Exhibits	8	26.7	14	46.7
Interviews	8	26.7	13	43.3
Seminars	6	20.0	13	43.3
Task forces	5	16.7	9	30.0
Field trips	4	13.3	11	36.7
Workshops	3	10.0	9	30.0
Study groups	3	10.0	6	20.0
Magazine articles	1	3.3	13	43.3
Public advocate	1	3.3	1	3.3
Simulation games	0	.0	0	.0

FIGURE 1: AGENCIES' USE AND ASSESSMENT OF EFFECTIVENESS FOR SELECTED COMMUNICATION MECHANISMS



Respondents were asked about the extent to which their agencies had employed each of 24 information/education mechanisms. Also, they were asked to evaluate the effectiveness of each of the mechanisms. As indicated in Table 1, six had been used frequently or very frequently by 50 to 83 percent of the agencies. Figure 1 graphically presents the results on extent of use and evaluated effectiveness for the 24 mechanisms. To facilitate comparison of the mechanisms, extent of use and effectiveness scores were derived for each mechanism by assigning numerical values to the ordered response categories. Of the five most frequently used mechanisms--newspaper articles, informal contacts, speeches, letters, brochures--four may be clearly characterized as one-way communication mechanisms. Only one mechanism which could permit broad public response and reaction, that of public meetings, was used frequently by as many as half of the agencies. It is interesting to speculate the extent to which emphasis on informal contacts which had the highest mean use score is a reflection of the rural orientation of the surveyed state. Advisory boards and seminars were used frequently by only 20 percent of the agencies, and workshops by 10 percent.

The six mechanisms frequently used by no less than half of the agencies were correspondingly rated as effective methods for communication. However, a majority of the respondents rated as effective or very effective mechanisms which were not used as frequently. These included progress reports, newsletters, public hearings, television programs, advisory boards and films.

The data in Table 2 represent general opinions of the respondents toward public participation. These results cannot be strictly interpreted as reflecting agency stances, as respondents were instructed to respond with their own opinions rather than giving the official policies of their agencies. Ambivalence and lack of concensus are suggested by responses to items one and three regarding the role publics should play and the agency activities in which they should be involved. Over two-thirds of the respondents felt that the public's role should be an advisory one in which they make recommendations yet have no part in decision-making. Although one-third of the respondents felt that publics should be involved in all phases of planning and management activities, only twenty percent indicated that the role of publics should be that of full participants in the planning efforts. Only two respondents believed that the role of the public should be restricted to that of informed observers only. As for specific activities, 73 percent thought publics should be involved in the

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Table 2. Respondents' Attitudes and Opinions About Public Participation

	Frequency (N=30)*	Percent
1. Role Publics Should have in Agency Programs		
Informed observer only	2	6.7
Advisory, making recommendations	20	66.7
Full participant in decision making	6	20.0
2. Resources Needed by Agency to Achieve Desired Levels of Public Participation		
Additional funds	17	56.7
Information regarding educational strategies	16	53.4
Additional staff members	15	50.0
Additional staff training	10	33.3
More explicit agency policies for involving publics	10	33.3
Other	4	13.3
3. Agency Activities in Which Publics Should be Involved		
Identification of water problems and needs	22	73.3
Identification of possible alternative actions	17	56.7
Evaluation of alternative actions	14	46.7
Post-construction management programs	10	33.3
All phases of planning and management activities	10	33.3
Decisions regarding action to be taken	9	30.0
Other	2	6.7
None of the above	1	3.3
4. Results of Public Participation		
Problem solution and greater support for programs	21	70.0
Creating more problems than are solved	2	6.7
Other	3	10.0

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*On some of the items, no information responses were given.

identification of water problems and needs, but only 57 percent felt that publics should be included in the identification of possible alternative solutions, 47 percent thought they should participate in evaluating alternatives, and 30 percent thought they should help make decisions regarding action to be taken. This appears to indicate that public participation is perceived as less practicable by agency staff in the more technical programs phases. One respondent made the point that "public involvement is essential to meaningful...[management activities], but many problems arise as many people are ignorant of the scientific principles of...management." A supporting comment from another respondent was, "I consider it practically impossible to establish in the general public a level of understanding of the complexities of water resources management sufficient to fully participate in decision-making." Another expressed the view that "the public [is] not in position to make necessary decision."

When queried about resources needed by agencies to achieve higher levels of public participation, the need for additional funds was cited most frequently. The majority of the respondents felt that more information regarding effective educational strategies as well as additional staff were required. A third of the respondents felt that additional staff training and more explicit agency policies were needed to effect improved public participation programs.

Overall, the respondents held favorable perceptions about the potential of public participation for program enrichment. Seventy percent reported that they believed public participation helped resolve problems and establish agency support. Only two respondents perceived negative results. Three respondents felt that the results of public participation were neither totally favorable nor unfavorable. One replied that public participation resulted in "an awareness soon forgotten." Another respondent felt that the effort exceeded the results. A final succinct comment was: "Involving the public in environmental issues is a crucial need requiring specific mechanisms to accomplish. Too often, it is just another 'ADD-ON.'"

In brief summary, the findings of the Mississippi survey indicated that a substantial proportion of the agencies had initiated activities in the past twelve months directed toward increasing participation of publics in agency programs. Their reported use of communication mechanisms revealed that one-way dissemination of information methods are used more frequently than two-way media.

The survey findings suggested some reluctance on the part of most of the agencies to include publics as full-participants in agency activities and decision-making. The majority viewed the role of publics as advisory. Although half or more believed that publics should help identify water problems, fewer believed that they should have a part in the evaluation and decision-making regarding alternatives. A large majority (70 percent), nevertheless, viewed public participation as positively related to problem solution and greater support for programs.

IV. STATE-OF-THE-ART: CONCLUSIONS AND IMPLICATIONS

This paper has dealt with research undertaken to explore the state-of-the-art of programs to inform and educate publics regarding water resources issues. The presentation has included a synthesis of information and research data stemming from evaluations of public participation programs, planning models, and results of a small-scale survey.

Conclusions

The evidence from all sources suggests the following conclusions about the current status of public participation efforts of water resources agencies.

The first conclusion is that not only are water resources agencies keenly aware of the importance of soliciting public input in plans and decisions about proposed projects, but the efforts to initiate and sponsor programs for involving publics have been substantial. A review of experiences, at the agency level, with public involvement policies and practices revealed extensive awareness and effort to develop innovative and comprehensive public participation programs. Similarly, the responses from planning agencies in Mississippi indicated that nearly two-thirds of the agencies had taken tangible steps in the last year to increase public involvement in agency programs. Furthermore, steps have been taken to clarify and to make formal policies more stringent in recent years.

A second conclusion is that the success of agencies in effectively and efficiently involving publics in their planning activities has not been commensurate with the effort expended. Our research indicated that programs were successful in generating public interest and involvement, but efforts to gain public acceptance and support of the proposals developed by the planning agencies and committees were generally unsuccessful. In fact, public opposition in some cases was strong enough to block the implementation of a project proposal. Evaluators attributed the inability of participation programs to win public backing to a number of situations present in the programs. Many of the early programs were primarily concerned with educating publics regarding project plans already completed, and educating publics is but one facet of the public involvement programs. In instances where two-way communication mechanisms were included in the strategy, the timing often precluded the possibility of significant public input into the development of the proposals, resulting in public outcry. Furthermore, the information which was supplied, even in the more innovative programs, tended to be inadequate to enable publics to participate knowledgeably and effectively in planning and decision-making.

Implications

There are a number of implications of this research effort, particularly when viewed in light of existing theory and research findings from the communications field, that may assist planners in designing future information/ education programs.

To successfully meet the challenge of devising effective methods of educating publics within the context of a well-planned public participation program, two needs are indicated. First, agencies must gain the expertise to develop imaginative and innovative programs to meet the needs of the project and characteristics of the affected area and publics. No one model or set of techniques are applicable in all situations. Secondly, substantial increases in agency resources are needed if the development and implementation of effective public participation programs is to occur. This need was emphasized in the results of the small-scale survey as well as the water resources research reports. There must be a sufficient allocation of funds and staff members to do the job, and provision must be made for staff training and for special staff trained in communications and public relations. Unless these resources are available, efforts to achieve educational and participatory objectives may not be fully met.

What are the essential elements of a well-planned program of public participation? Most studies of public involvement and education techniques and by water resources agencies have relied almost entirely on the perceptions of agency personnel and publics, and little formal attention has been given to communication research and theory and its relevance to water resources educational programs. A large portion of the communication research has focused on the "diffusion" process--the process by which new ideas are transmitted and adopted. A number of diffusion principles uncovered by researchers are highly relevant to agencies which must communicate with diverse and often disinterested publics. The remainder of our presentation discusses in a very abbreviated fashion the relevant aspects of communication research and theory as it may lend guidance to developing effective programming for public participation.

1. Before adopting a new or innovative idea, product, or technique, individuals must progress through a series of phases or stages, which have been termed as the awareness, interest, evaluation and decision stages. At the awareness stage, the individual is exposed to information about the innovation but lacks complete knowledge of it. At the interest stage, motivation is aroused to seek additional information. At the evaluation stage, the individual assesses the advantages and disadvantages of the innovation. At the decision stage, the individual makes a choice between acceptance and non-acceptance of the innovation (Beal, et al, 1957; Copp, et al, 1958; Rogers, 1962).
2. Individuals are not equally receptive or responsive to new or innovative information. Individuals with certain characteristics tend to be more receptive than others. A tendency for young males who have high educational attainment and social class and/or for persons who had a prior interest in or personal involvement in the subject to be more receptive than others has been observed. Furthermore, there are two types of individuals who are particularly receptive to early information regarding a new idea--"innovators" and "opinion leaders." Innovators, who are the first to accept a new idea, are usually atypical members of the social system while opinion leaders are persons viewed as leaders in a particular area. Opinion leaders tend to reflect the model characteristics of the group, even to be "super-representative" with respect to group values, beliefs, and customs. Both because of their superior knowledge within their area of leadership and their similarity to the general public, they are accepted as opinion leaders by publics.
3. Different publics move through the stages of the "adoption" process at different rates of time. At the time the general public is in the "awareness" stage, a small group of publics is in the "interest" stage. The small group of interested publics (i.e., opinion leaders) must proceed through the "evaluation" and "decision" stages before they may communicate in a positive

manner with the general public and stimulate their interest (Coleman, et al, 1957; Dodd, 1958-59; Katz, 1963).

4. The effectiveness of different types of communications mechanisms varies from public to public and from stage to stage. Different audiences require various combinations of personal and impersonal communications and types of communicants. Mass media communications function best to arouse awareness of publics to new events, and generally influence only a minority of persons who either have broad interests regarding public affairs or who perceive they will be directly affected by the news. Following mass media announcements, interpersonal communications must take place before publics may proceed through the stages of the process which lead to a decision regarding the new idea. It has been found that opinion leaders turn to other knowledgeable persons, typically other opinion leaders and agency experts, for additional information. In turn, it is the personal communications of opinion leaders with members of the general public that serve to stimulate the interest of the general public and assist their movement through the adoption process (Rogers and Pitzer, 1960; Beal and Rogers, 1957, 1960; Katz, 1961; Berelson, et al, 1954; Coleman, et al, 1957, 1966). If these events do not take place, interest of the general public may not be aroused in the case of water resources programs until conflict arises late in the planning stage at which point satisfactory resolutions may not be possible.

These principles emanating from the communications research findings have important implications for agencies seeking to interest and involve diverse publics in water resources planning and decision-making. It appears to be particularly important that relevant community leaders and governmental representatives be identified early, preferably in the pre-planning stage, and that two-way communication opportunities be established. While this may be most effectively accomplished in small intergroup discussions, the general public should also be informed and given an opportunity to respond within the earliest planning stage through public meetings, questionnaires, or other feedback mechanisms. This is necessary to give all publics an opportunity to participate in defining water problems, needs, and solutions.

Media coverage of all meetings and activities would serve to arouse and maintain awareness, as well as to "legitimize" agency activities. To maintain the interest of participating publics and to enable them to participate knowledgeably and effectively, various levels of printed information written in non-technical terms should summarize the views expressed by both planners and publics and the adverse and beneficial impacts of various alternative solutions under consideration. Basic technical data and reports should be made available to those requesting them. Research has shown that written materials are needed by persons in the evaluation and decision stages and that effective public participation requires that participants be knowledgeable of the various ramifications of the problem under study.

To facilitate the occurrence of the necessary interpersonal communications between planners and the better-educated population segments, a combination of informal contacts and conferences (i.e., committees, workshops, task forces, and seminars) of agency personnel with relevant governmental agencies, private organizations, and interested individuals are needed. More informal contact with persons who perceive that they will be adversely affected by the water plans and with the less-educated population segments are indicated. More positive results may be expected if the communicators are persons who are accepted and respected by this audience as opinion leaders. Ideally, the communicators would be "insiders" to the community and similar to the information recipients except that they would be more knowledgeable in the topic under discussion. It would, therefore, appear to be advantageous for community leaders and representatives to serve in the role as intermediaries between the agency and the general public in reaching this audience. Sponsorship of public meetings and small discussion groups such as workshops or presentations to existing community organizations by local civic groups would also serve to facilitate communications with the general public.

To demonstrate the organization of the research findings and conclusions into a model of the planning process, the following summary is provided and is abbreviated and illustrated in Figure 2.

Pre-planning phase

1. Informal contacts and conferences with relevant local, state, and federal agencies should be initiated in order to establish

Figure 2. Model of Organization of Agency Planning and Public Participation Activities

Planning Stages	Agency Planning and Public Participation Activities					
I Pre-planning Phase	Informal contacts/ Conferences with relevant governmental agencies	Identification of key organizations, groups, and individuals	Media announcement of impending study			
II Identification of Problems, Needs, and Goals	Small group conferences/ Workshops	Questionnaire survey/informational brochure	Media announcement	Public meeting		
III Identification of Alternative Solutions	Preliminary data collection on alternatives and impacts	Workshops/ Committee meetings	Preparation and distribution of summaries of alternatives and impacts	Media announcements	Public meeting	
IV Evaluation of Alternatives and Tentative Decision	Preliminary studies of viable alternatives	Workshops/ Committee meetings	Preparation and distribution of summaries of evaluation results	Media announcement	Public meeting	
V Detailed Study and Final Report	Detailed study of alternative selected	Progress reports/ Newsletters	Workshops/ Committee meetings	Preparation and distribution of summary of study and recommendations	Final public meeting	Publication of final report

coordinative relationships and elicit views regarding water problems, needs, and goals.

2. Key public and private organizations, agencies, and individuals that should be included in workshops and/or on committees should be identified.
3. Announcements should be made via the media regarding the impending study.

Identification and definition of problems, needs, and goals

1. Intensive efforts to educate interested publics regarding the planning process and to enable them to identify and define water problems, needs, and goals should be initiated through small group conferences, workshops, or organized, representative committees.
2. Eliciting public feedback regarding perceptions of water problems and needs and providing basic information regarding water resources planning might be accomplished through a questionnaire survey followed by (or preceded by) an informational brochure, or the informational brochure could include a mail response form.
3. A media announcement should be released regarding the purpose of the impending public meeting.
4. A public meeting should be held at this point to present to the general public the suggestions and views of publics and planners previously obtained and to solicit additional feedback.
5. Media coverage of the public meeting should be sought.

Identification of alternative solutions

1. During the collection of preliminary data regarding resources, alternatives, and impacts, workshops (or other work committees or groups being utilized) to educate publics, to identify alternative solutions, and to discuss impacts should be held.
2. Preparation and distribution of general and more detailed printed summaries of alternatives and impacts should follow the data collection and workshops (or be prepared concurrently).
3. An announcement via the media regarding the purpose of the impending public meeting should be made.

4. A public meeting to discuss the review and evaluation alternatives and the rationale for the tentative decision regarding the solution to be studied in depth should be held.
5. Media coverage of the public meeting should be sought.

Detailed study and final report

1. As the detailed study of the alternative selected is made by the agency, progress reports or newsletters regarding progress of the study should be prepared and distributed to advise publics of progress.
2. Workshops (or committee meetings, etc.) to discuss findings and tentative recommendations should be held.
3. Preparation and distribution of general and more detailed summaries of the study and tentative recommendations should be made prior to the public meeting.
4. An announcement regarding the purpose of the public meeting should be made.
5. The final public meeting to present the study findings and recommentations should be held.
6. Media coverage of the public meeting should be sought.
7. Publication of the final report should be announced and made available to interested public.

In cases where conflict develops which cannot be resolved, the reiteration of that planning stage may be indicated. The timing of informal contacts and meetings with landowners and other affected publics has not been specified, but should begin early and continue as indicated by developments within the planning process.

Without question, both the responsibility and the challenge of coordinating involvement of publics in public resources planning are substantial, but proponents stress that early and continuous involvement of publics in planning and decision-making activities makes possible the identification and resolution of potential conflicts and the development of mutually acceptable alternatives "before decision makers are entrenched into positions of opposition from which they cannot retreat" (Bishop, 1970:3). Public participation may be viewed as a "form of insurance on the investment involved in developing water plans"

(Bradley, 1971) in that the chances of their being accepted is greatly improved if the persons who make the final decision are involved in their development.

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PANEL DISCUSSION

Question by James O. Waller, Wilmington District, U. S. Army Corps of Engineers:

What have you felt are the real reasons the public and the agency want to have public involvement?

Dr. Willeke:

I think that there are about three reasons. One is that the plans haven't been as good as they could be. I think the public has felt this first. After a period of experience with public involvement, I believe that many agencies have come to the same conclusion. Second, there's been the difficult in implementing plans. This is primarily an agency perspective, although to some extent, also a public one. The proponents of getting something changed, something improved, especially water quality, are quite concerned that the necessary programs aren't being developed fast enough and implemented in a timely manner. I think the third is that some of the projects which have been developed and put into operation have not yielded the kinds of benefits that were expected. One of the findings of the recent study in Georgia, for example, the SCS PL 566 program has had some failings in the realm of project maintenance. The projects have not been maintained, and it appears that one of the reasons they have not been maintained is that the public was not fully aware of what the projects entailed when they were built. In other cases, it's a matter of getting construction jobs, especially in the large projects. You're promising, or at least saying, and expecting that there will be a substantial number of construction jobs for local people. When the project begins, the construction workers come in from all over the country, and the local folks are either pushed out largely or else are relegated to the lower paying jobs. I think those are some of the reasons.

Dr. Davis:

My experience is about the same, but I take a little different perspective. I don't believe we have public involvement. My impression is that there are problems that have never been heard before that are demanding to be heard. Historically, agencies have developed certain interest groups that they will be interacted with over time, and that in the last 10 to 15 years what we've gotten is an entirely different kind of public interested in what agencies are doing. Those are the ones who are beating on the door and getting their forces

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organized to counter the efforts rather than general publics. So one of the problems is the use of the term "public." If you take a look at the general citizen response, I think, you get a definite feedback that the public, the general citizen, is not interested. They are not involved and they don't see the same perspective. There are certain active groups that have brought about the change largely because they have stood in the doorway. Agencies in response to this could have two choices. They could go ahead with it and ram the program over, in effect, over their heads, or they could take them into account. So what I see as public participation or the demands for it in the last few years has been just that--the efforts of relatively limited, additional publics to have a say in the agency decision making.

Dr. Dysart:

I feel that one of the major reasons for having public participation is that there is a great deal of talent and ability present both within the development agencies and industries or the pro-development side, as well as within the public at large. I feel that we should do anything that we can to channel this toward a more constructive nature instead of dissipating our energies fighting things out. We should be trying to learn and work together. I found that in the programs that I've been involved with that industry or development agencies have people who can learn and profit just about as much as people from the public. I can cite instances where some very intelligent alternatives or modifications have been suggested that have been given serious consideration. These have been checked out and have resulted in a better project or in a cost saving. When you start talking about the expenditure of valuable manpower, I would rather see it used in coming up with better designs, better projects and better things that are more responsive than spent trying to fight or shoot somebody down or try to discredit the other party.

Question by W. V. Storch, Central & Southern Florida Flood Control District:

The term "environmental awareness" was used at least twice, perhaps three times. It left with me the very clear impression that there is an equation between environmental awareness and public participation in your mind. This leads to perhaps several other implications. The one implication that can be inferred from that, if that is a true equation in your mind, is that the only way planning agencies or development agencies can obtain environmental awareness is through public participation. This may not necessarily be the case.

The second possible implication is that perhaps the development of environmental awareness is the only justification for public participation. There may be other justifications for public participation other than simply the development of environmental awareness. The third possible implication is the extent to which this possible view on your part has carried over into your study and to what extent did your respondents have the same awareness, as I infer, that environmental awareness and public participation are one and the same thing.

Dr. Dysart:

With regard to your first question of whether I personally equated public participation with environmental awareness, the answer to that is no. I think that the environmental tends to creep in from time to time, but the critical element we have identified is more the business of awareness, sensitivity, perceptiveness and whether it relates to "environmental factors" or not. The business of sensitivity and awareness applies to people on both the development and citizen sides. A lot of people in citizen groups feel like they are being led like the cattle to slaughter by going into a public participation meeting. These are the ones where they're really going to close the doors in a big, smoke-filled room, and we're going to have public participation. I have been involved with helping prepare industrial people or development people to go into such meetings, and I find that they are at least as tense as are members of the public. Few of the development group, which include dam builders, power companies, and others, are not pretty well uptight because they have seldom had an experience where they actually communicated. They have not really communicated with the public or the public really communicated with them. It's usually a one-way type communication. I usually think of somebody standing behind a podium speaking into a microphone and a bunch of people listening or somebody walking up to a mike and reading a prepared statement into the record, and this is called a public participation meeting. What is needed are more small groups really communicating, to learn why the other guy feels very tense about this and what is the basis of his concern. We need to at least understand why he is concerned about that issue so you can get some answers, and if necessary, go through it a second time. Public participation has to be a continuing operation, not just something that you do once and check off. I think I've addressed the first question about whether public participation is identically equal to environmental awareness.

Comment by W. V. Storch:

Well, I think the answer to the first question answers all the others. The differences or the implications that I drew from that equation are not correct.

Comment by Leonard A. Shabman, Virginia Polytechnic Institute & State University:

I tend to agree with some of the implications floating around that really what we mean by public participation is a combination of environmental groups. That's really it. I suspect that the rise of the environmental movement and the rise or the focus on public participation is not a coincidence. They are directly related and that as long as the environmental groups succeed in blocking agency action that there will be a focus on public participation. We won't worry about public participation anymore at that point when agencies can be created that will speak to these environmental interests in the same way we speak to the agencies and industrial groups. I just wonder if that sounds reasonable to anybody on the panel?

Dr. Willeke:

It certainly doesn't to me. To some extent concerns expressed by the various publics may be institutionalized by having people who can speak for that point of view inside the agency. This has happened in many of the federal, state, and local agencies; for example, biologists, economists, sociologists, landscape architects are not routinely hired by agencies that previously hired only civil engineers. This, I think, is quite a change and a very good change; but I won't believe that we're going to grow out of the need to have public participation programs. This is because we're not able to have experts in agencies who are capable of given expression to the wide range of concern and interest that the various publics have. That's why we need to continue to be concerned about the process of public participation. Allow the opportunities for involvement, encourage them, and continue to have it. I do not see it as becoming completely institutionalized although a certain amount of that certainly is in order and will come.

Question by Leslie L. Houde, Public Information Officer, Wilmington District, U. S. Army Corps of Engineers:

In regards to public participation resulting from the environmental movement, industry and government programs are trying to avoid future injunctions that run into millions of dollars. The young man from Virginia Tech mentioned also that these public participation programs have become strong since 1969 when NEPA was enacted. It was only since that time that we have had extensive public participation. One of the main reasons for this has been to avoid the injunctions that would occur because of lack of public participation prior to the development of a project.

Comment by Larry E. Goldman, Mississippi Marine Resources Council:

I believe Dr. Dysart has hit the nail right on the head. The real reason that many of us profess interest in public participation is that federal guidelines trickle on down to the states, and it really gets down to the cost involved in delaying a major project. Dr. Davis with his improved model for public participation and Peggy Ross suggesting public participation was necessary early in the game, early in the planning strategy. Then, you don't end up with delay on the out end. Many of these projects are conceived in secrecy. In Mississippi, counties have development commissions seeking to bring industry into the state. I suspect that's the case through the entire Southeast region. These commissions are public agencies supported by the taxpayers of the counties probably getting some federal money, too. They're competitive with one another. Harrison County's competitive with Hancock the neighboring county. So they have put these packages together enticing industry or the utilization of a public resource together for a firm in order to get it into their area. Frequently, by the time the plan surfaces, the public has not had an opportunity to comment on it from the beginning or even to examine some possible alternatives. These are strictly competitive aspects of the problem. I'd like Dr. Davis or Peggy Ross to comment on what the mechanism is to accommodate these particular problems.

Dr. Davis:

If I understand you right, because of the competitive nature of many of these projects, they're developed in secrecy and so they're, in effect, sprung on the public at the very last moment. To give you a very short answer, I would say revolt. I think this is exactly why the so-called environmental interests, standing in front of the bulldozers, etc. is because it is only at the very last minute when everything was finished that they became aware of what was going on. I would suspect that the only way that you'll ever overcome this situation is through the mechanism of encouraging people to become aware of what's happening to them and sensitizing them to the fact that they can, too, do something about it. I saw some materials the other day that came across the desk about the involvement of citizens with governmental agencies, and they showed that in the Southern region fewer citizens have contact with government agencies than in any other region. It's part of the culture pattern. You're going to have to break it in order to overcome this kind of situation.

Question by James O. Waller:

All the speakers have implied that it's basically the agency's fault that public involvement hasn't worked. Your comment shows that isn't true. Very often it's the public that doesn't want to be involved. From the agency's standpoint, we're trying to do all we can under new guidelines and hiring new people that really have the right attitude about public involvement. The problem is getting those people that have the wrong attitude toward the Corps and just say: They'll never change; I don't want to talk to them. Getting people's philosophy changed so we can get them out is a real problem. In the work we're doing right here in Raleigh we find we can't get people out to work with. I'm not sure how to do it. I don't want to meet them in court. I want to meet them face to face in citizen meetings. We need some guidance on how to get those people out that don't want anything to do with us.

Dr. Dysart:

I think that you're correct. There are people who have had a negative response or who have been negative within the agencies and industries as well as within the public. The responsibility falls upon both to participate in good faith. Probably, industry and the agencies are the ones that have the budgets to engage in public participation, to set up programs, and to do things. I think if they head in the right direction with the right kind of program, they can probably have a greater impact than a bunch of individual citizens whether they have a right or wrong attitude. If you look at the money being spent on public participation, it's probably more within industry and the agencies than within the public. If that money is spent right, I think that you can draw people in. I have emphasized public participation in several of the graduate courses that I teach, and I know it's a bag of worms. I know that you're going to have, normally, people who advocate showing up at these things, but somehow you've got to get the pulse of the people who influence thinking within the community whether it's the guy in a corner barbershop or some guy that pumps gas or somebody that can speak for this big, silent majority. If you look for those, you can find them. You may have to ride around on the back roads in a pickup truck and find some of these folks, but I think you really have to work at drawing out some kind of consensus from these people who aren't going to be motivated by showing up at a meeting to read a prepared statement when everybody knows how they feel already. There is a responaibility on industry and on the agencies because they have the manpower, and they have the money allocated to do this, to try to use it as effectively as possible. I would admit that it is a two-way street, that you've got to have good faith of people on both sides; if we can, indeed, simplify it to two sides, and we can't. There are good people on both sides, and they outweigh the people who are perhaps irresponsible.

Comment by David Howells:

It would seem to me that with respect to the Crabtree Creek Project in Raleigh that there has been more of a sense of crisis which I think is an essential component to activating people. With some aspects of this project there have been some related activities develop such as the need for a floodway ordinance and for a sedimentation control ordinance. There has been good public input into those activities through the mayor's task force and some other ways. Maybe the fact that you're dealing with the whole Crabtree Creek makes it more diffuse and more difficult for people to see their interest in this. Perhaps a greater sense of crisis needs to be generated to get some of those people out.

Comment by James Stewart:

From my observation of seeing your participation in the Crabtree Creek Project, you have had quite heavy involvement. It may not be to the degree that you would like to have, but there has been certainly a high percentage of people in the Raleigh area involved, and you've had good turnouts for your meetings, especially the last couple.

Comment by W. V. Storch:

It seems to me that public participation is a resolution of conflicting interests or a mechanism to resolve conflicting interests. I'm very much inclined to agree with the gentleman from Virginia Tech that, really, what we're talking about is the classic Corps of Engineers on one side and the

Sierra Club on the other side. What we're in is an adversary proceedings of some type and what should happen, ideally, is the development of some mechanism for resolving this, getting it out of an adversary proceedings-type of thing and into a more rational context. It was interesting what Peggy Ross had to say to the effect that public participation in Mississippi had not been very effective; although a lot of effort had been made, it had not been too effective because one or two projects were stopped. Now that's from an agency's standpoint that this was not effective. They didn't get the project built. Look at it from the adversary side--the people who got it stopped were very effective. So we are very definitely in an adversary situation, and this must be resolved. I simply suggested to the model constructors, that I was rather surprised to see that they had set the governmental or elected officials way off here to the side some place. It seems to me that this is where these conflicts ought to be resolved. I'm old fashioned enough to believe in the democratic procedures and our elected officials being responsible in terms of representing the public interest. Is this not the context in which these conflicting interests ought to be resolved through some mechanism involving the elected officials?

Dr. Davis:

Let me respond to a couple of things. I went down to Wilmington two or three years ago and interviewed one of the representatives of the Corps of Engineers Office, who shall be nameless. We were interested at that time in trying to develop a study of what happens when you go into a situation for an impoundment. We would like to look at the development of opposition and how that opposition is taken care of. What happens to the decision process during this period? The man rared back in his chair and he said: You know, that's really not our concern. If we sense enough opposition, we pigeon-hole the project. Today, the Corps would never make that response to me if I asked them that question. There has been some change. It's been changed because of adversary groups. It hasn't been because people out of the goodness of their hearts wanted to change. This has been because they weren't able to get the job done as efficiently as they could because there are people who don't think they were doing it right. So that's my position on the adversary groups. Once people begin doing something, they come to justify what they are doing. I think in the long run it will be institutionalized as a part of the attitude of agency personnel and from then on it won't be adversary anymore.

Now to the models, the lines weren't really to indicate distance from planning agencies. For many agencies, governmental state agencies for example, city and county governmental officials are a public just like industry is. It may well be that if you translated those things to smaller and smaller levels of decision groups, that instead of the planner being at the center of most of those models, those political decision makers would be there, and they would be the people who would represent their constituency to the agency.

Dr. Willeke:

The elected official has a wide range of things he has to deal with in the course of his work. Many, if not most, water projects and programs are only a small part of it, and frequently not even the most salient elements to him. One of the direct consequences of this is that the elected official has very little time to spend on anything like a water resources project. He is typically ill-informed about it, and that's not bad. He does have the job of ultimately resolving some of the value differences, and that should be his role. But to involve him to the same depth and for the same time extent throughout a long planning period is quite unrealistic because you can get so little from an elected official. He needs to be kept informed, and periodically involved in discussions, but not very frequently. His role comes in at the time when some ultimate decisions do need to be made, but up until that time you're really wasting time to attempt to involve the elected official very deeply because he has so little contribution that he can make timewise and knowledgewise.

Comment by Fred Armstrong, Central Regional Office of the North Carolina Office of Water and Air Resources

I would like to disagree with that statement. I've been involved with public participation for around seventeen years. I agree with the gentleman from Florida that it's a matter of adversaries. I agree that as a result of that problems have been worked out to a successful solution in many cases. I do not agree that public officials should not be involved all along the planning process. Certainly, if the public--the adversary groups--are going to be involved in the planning process, then the public officials who are ultimately responsible for the decisions and the means of paying for it should be kept involved all along. There's another aspect. Normally, the best way, in my opinion, that you can get the word spread among the people that need to know is through the public officials because they were elected by the people; they're responsible to the people; and if they know what the problem is or the problems that are arising, they are a great help in providing the public with the type of information we're talking about here.

Question by John Wray, North Carolina Office of Water and Air Resources:

We've talked a lot about various methods and models of public participation, and when you get down to the end of it, you've got to assess the effectiveness of it. When getting into particulars and citing particular examples, I'm wondering just how we can best assess the end result of public participation. Can we really cite good, specific examples of projects where you can look back and say: We've had real good public participation, and we got what we wanted to get with a specific model and it worked.

Dr. Ashton:

I think there is some potential cost effective economic analysis in this kind of situation. You invest so much time and other resources in making the opportunity for public participation available to those who wish to participate and then your question becomes one of: How do we assess the effectiveness in terms of the investment we make to see whether or not the end result--the product--is of a cost-effective nature? I don't know that we can actually make any definitive conclusions regarding actual dollar return. These are intangibles. They're a non-market kind of unpriced products. Dr. Dysart sort of addressed this question this morning in his analysis of one and a half billion dollars which might be lost if public participation was not included as a part of project development. We can come up with these highly conjectural and speculative kind of expected losses or expected values for public participation, but I certainly don't think we are in a position to be able to state categorically that X amount of time or X number of dollars invested in public participation is going to provide any kind of return.

Dr. Dysart:

I think that it is very difficult to quantify the benefits and results that come from public participation. Two or three years ago I was involved with a small group trying to evaluate the benefits of system analysis or operations research techniques in devising improved water resource systems. Somebody said: You know, we're spending a great deal of money, millions of dollars a year in research and development and how do we know that we're really getting better projects than we would have otherwise? It's hard to answer that. I think this is of the same nature, but I think that one of the major manifestations of effective and meaningful public participation is a better feeling which exists or can exist among the various parties. As people on the environmental or conservation side and those on the development and industrial side become more knowledgeable, more tolerant, more sensitive, I think we will get a greater level of understanding. It is not necessarily a matter of compromise or giving in or selling out. There is somewhat less perhaps of an adversary environment, and that to a point one must have an adversary environment. I think that you have to get attention in the process. Somebody has to lie in front of the bulldozer in Florida or in front of the dragline. Somebody has to get in the headlines; somebody has to stop something; but that can't go on forever. People get tired of that. Then, someone has to take over and say: Okay, we've gotten the ear of the development agencies. Industry is listening to us. There are a large number of people within the publics who are concerned, who are responsible, who wish to,instead of fighting things, work things out--let's see if we can understand the problem better. Let's see if we can somehow come up with projects that are more responsive. When this better feeling exists between the development and the environmental or conservation community, you're going to see projects that are more responsive. This can be new projects or old projects operated in a different manner. We have seen instances where the Corps of Engineers, for example, has changed the operating policy of certain reservoirs in response to desires instead of pressure from the public. They say: If that's what you want, if you want a different mix, if you want more emphasis on recreation, fine. We'll operate this in one way. If you want more emphasis on flood control, then we're going to have to operate it in a different way. So I think this is something that you're going to see; you're going to see a greater level of responsiveness; you're going to see more communication. I think you're going to see a lower level of hostility among the various groups. As to whether this can be quantified or not, I do not know.

Comment by Leslie Houde:

We have noticed within the Corps during the last four years this evolutionary process that Dr. Dysart just mentioned. I think as time goes on you're going to find groups--Sierra Club, Carolina Conservation Council, ECOS or whoever you might want to work with in developing a project. Here in North Carolina, for instance, we came to a negotiated settlement even though there was an adversary element present on the New Hope Dam (now called the Jordan Dam), and I think that the conclusion there was drawn through cooperation between these groups. As time goes on, the Corps will be more receptive, and I believe the groups, too, in coming to a good conclusion.

Comment by Michael Pendergraft, North Carolina Office of Water and Air Resources:

We have been talking about democratic ideals, and I've been feeling a lot of cynicism about public participation. Maybe this is going to be a little naive, but it seems to me like what we're really reaching for is the realization on different people's parts that they have to work with other people. What we're really seeking for is a way that we can set up an organization or methodology whereby people can sit down with one another and look into the future and say: Well, look; we don't have unlimited resources anymore; we don't have unlimited space; we've got more people in the area than we really want and that what we're trying to do is find a way to get people together possibly in an adversary system, with people saying we want to work together and work out our problems. We have this stream, and it can be used for seven different things, but it can't be used for all of them. We want to find a way that we can get together and resolve these kinds of conflicts in a way that is best for everybody. The cynicism, I feel, is everybody worrying about what we are going to do tomorrow morning and what we're going to do next week. What we're really worried about here is what we're going to do over the next 50 or 70 years and that we're trying to build a process that can ensure the people pulling together for a successful future, if you want to put it in optimistic and rosy terms, but some way to prevent the kind of disasters and planning that happened at the New Hope Project where everybody just started yelling at each other because they were all very unhappy. Is that correct?

Comment by Humphrey S. Cummings, North Carolina Office of Water and Air Resources:

I wanted to ask Mrs. Ross if the gentleman correctly interpreted her statement that success and effectiveness had not been commensurate with efforts expended because the project was stopped. If that was not accurate, I have a question for you.

Mrs. Ross:

It is not accurate.

Question by Humphrey Cummings:

We have heard presentations by Drs. Willeke, Davis, and Dysart on many approaches and different aspects of public participation. I would like for Peggy Ross to comment on the most effective means that could be used by agencies that perhaps haven't been tried.

Mrs. Ross:

I think that all of these things are important ingredients. First, let me back up and say that when I made the statement that the success had not been commensurate with the effort extended, I was making this on the basis of the entire research effort, not just what we found out in Mississippi. Most of those projects that have been terminated or had not been implemented as well as desired were cited in the Corps literature rather than the statement growing directly out of the Mississippi survey. I don't think that there is any one single model that we can set up. It's going to involve an assessment of the overall situation, and then the selection of mechanisms which are attuned to that particular situation. In Mississippi you might have to do something very different from what you might have to do in North Carolina. John Peterson and I have had some experience, not necessarily with public participation, but indirectly so, in a small watershed study where we saw that it was 5-8 years and the project still had not been implemented because the social, the cultural milieu of the area had never been considered sufficiently. They had overlooked the ways that they could go in there and make contact with people in that area considering the values and the moves of the group, so that they could successfully implement the program. The relevant publics in this particular case might be completely different than in another case.

Comment by Donald O. Morgan, Central and Southern Florida Flood Control District:

I'd like to follow that just a little bit, and get back to the elected official. The question, I think, revolves around the participation of the public in what we're addressing today--water resources--as a single functional part of development in the United States. We could use the Department of Transportation or any other functional element. I question whether this kind of very broad participation of the public in these functional elements is really as important as the participation of the public at the comprehensive level, at the elected official level. I wonder, in fact, when we're calling out the public to participate in water resources planning, we are not really identifying pros and cons of this project and stopping it in many situations and leaving "the original question unanswered." The unanswered question in many cases, and I think most cases, ends up to be a land-use or a land-activity or a land-practice question which is beyond the scope of the authorities of the functional agency. I wonder if really we shouldn't be addressing citizen participation at a more comprehensive level than this functional level?

Dr. Willeke:

I think it has to be both and before the comprehensive planning efforts can really get off the ground, many people in the public need to know the problems in the functional area. Consider water and sewer planning. Water and sewer planning for all intents and purposes is non-existent in the United States. We have had very, very little water and sewer planning. The state pollution control agencies and local governments have been about as derelict as you can imagine in planning. The public is beginning to become aware of this and asking for the same kind of planning to be done there as has been done in a few areas. I'd like to say that the Corps of Engineers has leaped lightyears ahead of the water pollution control agencies in doing planning. I do not want that to come out as an endorsement of Corps planning. If the public is involved in both, then the linkages between the two can be established. This is the general approach that is being tried in the 30 or so urban studies around the country, and it is a very logical kind of thing. People need to understand both sides--the fact that land-use decisions affect the kind of things that are done in functional planning and vice versa--that many decisions made in functional planning have controlling influence over their general land-use planning. Unless they are involved in both, then we've missed an important component.

Comment by Charles H. Langdon, Clemson University:

I did work with Dr. Dysart on this project, and what I'd like to bring out and make clear concerning elected officials is that when we ask for the identity of the key decision makers in water resources engineering or the spectrum of water resources across the board, in most cases the elected officials were completely neglected. They were not considered by our survey to be key decision makers within the realm of water resources.

Dr. Davis:

I don't know how adequate it is and it may be just a cynical viewpoint, but the impression that I've gotten from looking at the materials over the last two or three years is that there is a perceived gap between the elected officials and the agencies. So the move to get effective action is aimed at the agencies because they are closer to the people. An agency has more direct effect on the people than the elected officials are perceived as having. If that's the case, you're right. I would agree with you, but I think there is a two-pronged activity. The system has grown so complex that the elected officials are incapable of controlling a perception, a bias. Therefore, you intervene with the agency but at the same time in order to recontrol or redevelop it into a manageable system in which the elected officials are representative, you've got to retrain your people in this line at the same time you are training people to interact with the agencies.

Question by Humphrey S. Cummings:

According to Dr. Ashton's presentation, agencies were set up at the public's request and that means that they are part of the political process as I view it. They were set up to do certain things for the people, not for elected officials, so why should agencies be isolated from the political process?

Dr. Ashton:

They are not. I did say at one point, I believe, that they isolate the functional decision making from the political process but only to the extent that they were the individuals most capable of doing it. If you were to leave it strictly in the hands of Congress, for example, you'd never get anything done because they don't have time nor do they have the specialized expertise. We could run down the other list of factors that I gave for having agencies created in the first place.

Question by Peter Quick, South Carolina Wildlife and Marine Resources Dept:

Let's concede that agencies are regulatory in nature. Don't most agencies that are planning look for controlling and decision making power, especially those that are competing with each other for that regulatory power? If so, do we concede that these decisions are made despite the public or do they simply have no meaning after being compromised through the approval as the model Dr. Davis presented?

Dr. Davis:

I'm not sure I understand your question. Are you saying in effect that what agencies operate in is a system of power and that they bring their supporting power to their arena in order to support their plan or are you suggesting that any plans made that are brought into a political arena automatically become useless because they end up in compromise?

Comment by Peter Quick:

As you've implied for the decision-making process for your meetings, with the compromise, what's left? As an example, I was talking to somebody during lunch about the North Carolina Coastal Management Plan. What value is that piece of legislation? Literally, none.

Dr. Davis:

I'm not sure that I perceive compromise as being something that means to give up. What I see as compromise is the working out of different expectations about things which are good. The ecologists have a viewpoint that everything should stay exactly the same as it was four million years ago. The developmentalists say there's money there--let's go get it. Let's do whatever we can with it. Well, somewhere between these two extremes there has to be a compromise, but that doesn't mean to me that this is the valueless object because what was worked out was a compromise. There is no such thing as an ultimate good. I don't know what truth is, and I'm not sure you know what's good. So that in a social system like we operate in in which everybody is supposed to have his needs met, I don't see how it can operate any other way than through compromise unless we are willing to allow one or a limited number of people to define for everybody else what is desirable. If we're going to do that, then fine--go to it.

Question by J. Owens Smith, Attorney with Institute of Natural Resources and Institute of Government, University of Georgia:

Have any of you had sufficient contact with citizens to determine whether an inadequate knowledge of administrative process affects their willingness to try to participate?

Answered by Dr. John Peterson, Mississippi State:

I've just finished working on a research project which led to my working as a planner for a tribal government. Indian water law is one of the major problems throughout the entire United States. The answer very simply is yes. A tribal government has a hard time trying to figure out how to contact the Corps of Engineers and even with the Corps attempting to participate, there are different laws, different regulatory systems, and different legislative processes. In my research, I found a very honest attempt was made to communicate by the Corps, the tribal government and the Indian citizens. You can look at the files of the two different agencies and talk about the people on each side; they both made honest and open attempts, and they both missed. In this case, there was a very honest attempt to communicate on both sides, but there was ignorance of the process of planning and the order in which things took place on each side with each agency.

Comment by Stuart A. Davis, St. Louis District, U. S. Army Corps of Engineers:

A number of people brought up the point that public participation may have reached new heights because of the implementation of some directions handed down from Washington. I'm afraid to a large extent this is true, and I've witnessed this. I wouldn't say a majority of higher-ups in different organizations are favoring public participation for these reasons, but I think it's significant. This is a real danger for a couple of reasons. Public participation mechanisms become either public relations just to try to sell a project or appointing an advisory group that would just have a rubber stamp or really have no clear function. If public participation is really geared to the plan formulation process, there are points along the process you know what input you need. Real planning just can't go on without public participation because there is no way of really assessing what the problems of a particular area are without local input. There's no way of really telling what the desires of the people are without really going out and beating on their doors, maybe not expecting them to come to meetings because they won't come in large numbers. This is a real challenge.

Dr. Dysart:

I've been vitally concerned about the question the gentleman back in the corner raised about how you achieve public participation along with the requirement for confidentiality. Apparently, they are in conflict; and obviously, if an industry or the Corps of Engineers or anyone else were considering a dam site, you've got to keep things kind of quiet. Public participation thinking has to go into even the conceptual phases whether it's at the county level or whether it's at the regional level or anywhere else. You can't add it on once everything else is over with. As soon as a public announcement is made of a project, then you've got polarization begun; you've got battle lines drawn; the ball game is over. It's important to keep in mind that there is a full array of tools that are available in the public participation bag starting out with a tight-mouthed, one-man, quiet operation that can represent the public all the way up to a full-blown public, wide-open deal. You should not think in terms of just one mechanism. There are mechanisms that are suitable for quiet, confidential environments of which I have been involved in several, and there are things that you do once things are out in the open. So I think that you have to have it all the way through--different methods, different tools appropriate for the stage of development. I was present one time when a major industry asked the question of a number of state officials: What about environmentalists in such and such a state? Are they going to be a problem? The response was that they would be no problem, that we would just bulldoze the (characterization deleted) into the sea as we have done for years in this state. At this time I took some small exception that there is a second alternative. What could have been and should have been literally a blood bath turned into an exemplary public participation program that reportedly has top management, and a whole industry looking at it wanting to know if things will keep on going as well as they have, and it could very well turn around the thinking of an entire industry. The learning goes both ways. There has been more learning on the part of industry, the people who have been taking part in this program, than the people who have come in representing the public. They are passing the message on up to the people on the top floor in the corner suite that there are some pretty smart cookies out there among the troops that know what's going on, and they're willing to sit down and talk with us. If we will level with them and treat them like human beings and with respect, they'll treat us the same way; and we can get some good ideas. They can learn from us, and we can learn from them; and what we're going to be putting out is going to be somewhat different. Confidentiality is important, and it is necessary; but there are types and mechanisms of public participation that are suitable when things have to be kept quiet. As things come onto the surface, you bring in other tools or other methods. Public participation does not begin once you pull the wraps off because by then the polarization takes place. There is an immediate vacuum that I've noticed that occurs. If the environmental and conservation community are left out, if they are not invited to the announcements where all of the local politicians stand around and slap themselves on the backs and eat barbequed spareribs and talk about how wonderful it is and what it's going to do for the school district--you know, they say: We were left out. We were not considered important enough to eat at the first table. Therefore, we'll get them, and they know that they can. I have been on the other side, and I've been part of a very successful effort to shoot something down. It's not hard if you've got the right kind of talent on either side. Confidentiality is necessary; but you can live with it and still have a forum or you can have representation from the public.

Question by E. Eugene Ott, South Carolina Department of Health and Environmental Control:

Being with a state agency and being charged with managing a public participation program, what things would I look for to evaluate my success at public participation?

Dr. Willeke:

One of the very good criteria of success that I have heard about and which I agree with came out of the Boston Transportation Planning Review. One of the criteria there was the various parties to the planning process came to agree on what the facts of the case were. They had value differences, different opinions about what should be done, but they did at least come to agreement on what the facts of the case were. That's a sufficiently rare occurrence in planning, and I think that is a very good criteria.

Mr. Ott:

I bring that question up because there are cases where you count the number of people attending public hearings as a means of evaluation.

Dr. Dysart:

We will go on the record as saying that is not valid.

Dr. Davis:

I'm not so sure about that. If you have none in the past, then you've got some now, and they're making a contribution, that's good. I won't say that you count numbers because I've seen them stand up at public hearings and say: Well, we did good today--about 70 people here. Thirty-five of them happened to be agency people. I know that in the history of most agencies you have very low levels of participation. I don't mean bodies present; I mean people who have actual contributions to make. If in your process of trying to get people actively involved and educated in the way you work and the problems, can develop a discourse, and you increase the number of people who are actively involved, I would say you've done good. That's about the best we are going to be able to do for a while because the computer says we can't put a number on it, yet.

ANALYSIS
OF
PUBLIC PARTICIPATION PROBLEM
AND
RESEARCH NEEDS

Public participation encompasses those activities undertaken by the various elements of the public to influence the course of water resource planning and decision-making by public and private officials. It seeks to identify affected public interests and to facilitate their expression and consideration in the planning and decision processes. A relatively recent phenomenon, broad public participation in water resource planning and management is still largely untried in a systematic way. Criteria, procedures, and techniques leave much to be desired. Conflict and delays are often cited by administrative agencies, while frustration and lack of access to information and decision-makers too often accompany the efforts of the interested public. Increased public involvement holds much promise for better policy and programs. Its ultimate success or failure will hinge on the degree to which the process is understood and the quality of its administration.

Goals and Objectives

The goals and objectives of public participation in water resource planning and management are:

1. Better planning and decision-making to reflect needs and preferences of people
2. Harmonization of water resources management with broader social goals
3. Fuller exploration, exposition, and interpretation of alternatives and their consequences
4. Identification and management of conflicts to promote early discussion, adjustment of differences, and prevention of unnecessary delay
5. Public awareness of water resource projects to take full advantage of benefits and adjust to adverse effects
6. Responsiveness and accountability of public agencies to public viewpoints
7. Adjustment of public agency programs to cultural and social milieu of target populations
8. Visibility, credibility, and rapport between the public and agencies
9. Establishment of priorities
10. Guidance for management strategies and institutional arrangements
11. Coordination

12. Local cooperation and costsharing.
13. Compliance with legal requirements for public participation.
14. Balancing of public and vested interests.
15. Enlargement of information base.
16. Increase in the social and political viability of water resource plans and decisions.

Conclusions:

Enough is known of the social systems involved in public participation to take substantial steps without further identification research.

Possible Courses of Action

Public participation should be an integral part of the continuing planning and management process. The alternative courses of action in support of this goal are many and varied. Their individual or collective use would vary with circumstances as would the timing and point of application. The principal alternative courses of action are:

1. No action
2. Identification of visible and invisible publics
    - (a) Identification of community influentials and information leaders (reputation, involvement, citizens committee)
    - (b) Analysis of existing organizations
    - (c) Identification of project-affected publics (potential for emergence from invisible to visible as a result of projects) with particular emphasis on the "hidden publics" outside the socio-political mainstream
    - (d) Solicitation of interests representative of the common good from all affected socio-economic groups
3. Education of planners and management staff
    - (a) Demonstration of commitment by top management
    - (b) Association with prestigious professionals from outside areas
    - (c) Management training
        - (1) Seminars
        - (2) Retreats
        - (3) Game simulation
        - (4) Success stories
    - (d) Staff training
        - (1) Inservice
        - (2) Formal
    - (e) Leadership training

(f) Salary and career incentives

4. Education of publics (individual and groups)
    (a) Newspaper
    (b) Radio and TV
    (c) Speeches
    (d) Field trips
    (e) Exhibits
    (f) School programs
    (g) Films
    (h) Brochures
    (i) Newsletters
    (j) Reports
    (k) Letters
    (l) Conferences
    (m) Word of mouth
    (n) Court action
5. Information - response
    (a) Public hearings
    (b) Surveys
    (c) Public meetings
    (d) Public advocate
6. Interaction - dialogue
    (a) Workshops
    (b) Task forces
    (c) Interviews
    (d) Advisory boards
    (e) Informal contacts
    (f) Study groups
    (g) Seminars
    (h) Charettes
    (i) Games
7. Accountability of public agencies and private interests
    (a) Access to public agencies - information availability and input
    (b) Access to the courts to challenge private and administrative agency decisions
    (c) Additional legislation - more explicit and mandatory provisions
    (d) Environmental impact statements

Conclusions:

The above represent a rather elaborate set of possible courses of action to reach goals and objectives. Sufficient techniques are available and inspiration research to expand the list would not seem to have priority at this time. Preliminary screening eliminates only the first alternative of "No action" as unacceptable. Analysis of the remainder indicates that all are individually and collectively feasible. Experience in other areas has demonstrated effectiveness. Specific feasibility, singular or in combination, will depend on geographic, social, and economic constraints as well as the commitment of requisite expertise and resources.

Consequences of Alternative Courses of Action

A tentative examination of consequences of alternative courses of action is summarized by functional categories as follows:

1. Identification of publics

   Positive

   (a) Identify more publics than heretofore

   (b) Catalyze transformation of invisible to visible publics

   (c) Make issues more salient

   (d) Effect the transfer of information

   Negative

   (a) Possibility of heightening conflicts

   (b) Increase impact on public agencies

2. Education of planners and managers, 3. Education of publics,
4. Information-response, and 5. Interaction-dialogue:

   Positive

   (a) Increase the level of public participation - generally contribute to goals and objectives

   (b) Strengthen democratic process

   Negative

   (a) Heighten expectations with obligations for follow through and fulfillment

   (b) Problem of sustaining citizen interest in absence of periodic crisis

   (c) Might encourage oligarchical relationships between dominant publics and agency officials

   (d) Imbalance in response - runaways - because of influence of dominant public personalities and political interests

   (e) Need for increasingly competent agency leadership to deal with public participation in a mutually constructive way

6. Accountability and private interests

   Positive

   (a) Administration of programs in fulfillment of intent and letter of law

   (b) Increase responsiveness to public needs and expectations

   (c) Better practices and decisions

   Negative

   (a) Increase demands on time and resources

(b) Encourage "safe" decisions and discourage imaginative actions because of exposure to public view

(c) Threat of driving decision-making underground to avoid public exposure

Conclusions:

While there is some capability for the prediction of consequences in a qualitative sense, there is no parallel capability to deal with these quantitatively. All alternative courses of action - individually and in combination - need further research with respect to consequences under various geographic and situational conditions if generalizable use is to be sufficiently predictable.

Comparative Evaluation of Alternative Courses of Action

The question as to what "meaningful and effective" public participation is remains unanswered. The meaning of the two words was not established by conference participants and remained a troublesome, subjective referrent throughout the course of the conference.

Participants from water agencies were presented with a rather complete set of alternative techniques for the design of public participation programs. While sufficient information about the use of these techniques was said to be available, the question of how to design cost effective programs still hung in the air. Agency personnel wanted to know:

(1) how to design and cost out "meaningful and effective" programs, and

(2) how to maximize cost effectiveness within a given set of circumstances and budgetary constraints.

Answers were not forthcoming.

Conclusions:

The following empirical studies are needed in support of public participation programs of public and private agencies:

1. Develop guidelines as to what experts and activists include in their judgments as to "meaningful and effective" public participation
2. Develop criteria and guidelines for the design and evaluation (including cost effectiveness) of public participation programs through (1) above and the following types of empirical research:
   (a) ex post studies of public participation programs, and
   (b) cooperative studies with agencies through design of programs to meet operational as well as research objectives.

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